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THE UNIVERSITY OF ALBERTA

PERCEPTIONS OF EMPLOYERS OF NAIT MARKETING MANAGEMENT GRADUATES: A FOLLOW-UP STUDY

by

DONNA M. RICHARDSON

A THESIS

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E. Miklos
Supervisor

James M Small

Paula A. Brook

DATE: July 31, 1989

DEDICATED TO

my late parents, John and Elizabeth Richardson, who, although they experienced only a rudimentary education, inspired in me a love for learning and, who always provided me with encouragement in all my endeavors

and to

my daughter, Lindsay Oshust, for whom I wish joy and satisfaction in life-long learning.

ABSTRACT

The purpose of this study was to assess the extent to which the Marketing Management program at the Northern Alberta Institute of Technology (NAIT) is responding to the needs of employers. This assessment was based on the results of a questionnaire which was distributed to employers of graduates of the program. The perceptions of employers regarding the importance of skills developed in the program and the competence of graduates in performing those skills provided the basis for the assessment.

Responses were obtained from fifty-seven employers of students who graduated from the Marketing Management program in either 1986, 1987, or 1988. A series of t-tests for non-independent samples was conducted to explore differences between the means on importance and the means on perceived competence. An additional t-test was conducted to consider the differences between the competence of graduates on particular skills and their length of service. Chi-square tests were also conducted to identify contingencies between the importance which employers place on a skill and the size of the organization in which they work.

Results of analysis indicated that employers tend to place more importance on general education skills, such as the ability to communicate properly and to solve problems, than on technical skills related to such areas as merchandising, economics and law. Data analysis also revealed that for many skills rated by employers, the means on importance were higher than the means on competence. Other findings of the study show that employers tend to prefer graduates who have both general knowledge of a subject area, as well as the ability to perform a variety of specific skills within that area.

The findings of the study are generally consistent with those of studies found in the literature with respect to employers' preferences for graduates who are competent in general education skills.

Several conclusions may be drawn from the findings of the study. First, while employers place varying degrees of importance on the skills which they rated, they tend to consider general education skills to be more important than technical skills. Second, based on the levels of importance which employers place on skills developed in the Marketing Management program, it is apparent that the focus of the program is relevant to the needs of employers. In addition, it may be concluded from the findings that graduates of the program have achieved acceptable levels of competence in their jobs. Finally, although employers surveyed were not specifically asked to what extent they were satisfied with the graduates whom they employ, an acceptable level of satisfaction may be inferred from the findings of this study.

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CHAPTER I

INTRODUCTION

The Northern Alberta Institute of Technology (NAIT) began its twenty-sixth academic year in August of 1988. During the years since 1962, the Institute has developed a reputation for providing excellence in career training. According to the President of NAIT, "the Institute is committed to keeping course content and instructional objectives relevant to needs identified by employers" (NAIT Calendar, 1986, p. 2). At the program level, there is a recognition that some of the forces which influence the external community also have implications for NAIT's programs. In particular, there is a demand by employers for skilled and highly productive employees. Along with other programs, the Marketing Management program is challenged to ensure that its curriculum relates to the needs of students by being responsive to the needs of employers. A step toward meeting this challenge is conducting research on the effectiveness of the current program.

Problem Statement

The purpose of the study which is the subject of this report was to search for an answer the following question:

> To what extent is the Marketing Management program at the Northern Alberta Institute of Technology responding to the needs of employers?

The following specific questions relate to the major research question and guided the development of the study:

1. To what extent do employers of recent Marketing Management graduates consider vocational/technical marketing and business skills to be important?

2. To what extent do employers of recent Marketing Management graduates consider general education skills to be important?
3. What is the perception of employers regarding the degree to which Marketing Management graduates possess the skills identified?
4. To what extent are there differences between the importance that employers place on particular skills and the perceived competence of Marketing Management graduates in performing those skills?
5. What skills do employers think will be important in the future?
6. To what extent does the importance which employers place on particular skills depend on the size of the organization within which they work?
7. To what extent are there differences in perceived competence between Marketing Management graduates who have been employed for less than one year and those graduates who have been employed for one year or longer?
8. To what extent do employers prefer to hire Marketing Management graduates with general knowledge versus graduates with the ability to perform specific skills?

These questions served two purposes: (1) to determine the degree to which the Marketing Management program is currently meeting the needs of employers and, (2) to determine the extent to which employers anticipate changes in their needs. The general design and methodology used was that of a follow-up study of graduates of the program.

Background of the Study

At the time of the study, the Business Administration Department was considered to be one of two major program areas in the Business and Applied Arts Division at NAIT. This department offered five related two year programs: Accounting, Administrative Management, Computer Systems, Finance and Marketing Management. Curriculum planning was done at the program level with the involvement of the instructional staff and program Advisory Committees, which consist of representatives of the business community. Requests for curriculum changes required approval by the Curriculum Committee which included program heads and the Associate Dean responsible for programming.

Concern regarding reductions in funding for education by the Alberta Government forced administrators at NAIT to seek means of increasing productivity and encouraging accountability while maintaining the quality of education in which the Institute prides itself. One such response was to develop means for evaluating programs. These factors motivated the researcher to address the preceding research questions which relate to efforts by the Marketing Management program to be responsive to the needs of employers in the community.

Significance of the Study

The results of this study have potential to be of both practical and theoretical significance to several groups of educators including instructors and administrators at NAIT, as well as those in other colleges and technical institutes.

The practical significance of the study relates to the degree to which employers currently place importance on the types of skills which are being developed in students in the Marketing Management program at NAIT. In particular, information about the extent to which employers consider general education skills to be important within their organizations relative to technical skills is relevant to program planning. Furthermore, the extent to which there are perceived differences between the importance of skills and the competence of graduates serves as an indicator of program effectiveness. Research results will also identify the skills which employers anticipate will be important in the future. Finally, the study was designed to determine the degree to which the importance of skills and the competence of graduates are related to particular variables.

A review of the literature indicated that there have been a limited number of follow-up studies which focused on college and technical institute graduates, and fewer still which focused on employer preferences regarding particular types of skills. Consequently, this study had potential for adding to the literature on general education and vocational programs in technical institutes.

Results of the study also had potential for contributing to assessing the applicability of a particular conceptual framework to evaluating a technical/vocational program. The methodology of the study and the design of the instrument could also serve as the basis for conducting follow-up studies in other program areas.

Conceptual Framework

Several of the factors which influence the extent to which the Marketing Management program at NAIT is responding to the needs of employers may be presented in a conceptual framework. This framework, illustrated in Figure 1, may be useful in understanding the relationship between the significant elements.

Three major elements are thought to influence judgements about the effectiveness of the Marketing Management program: environmental conditions, employer expectations, and the characteristics of students.

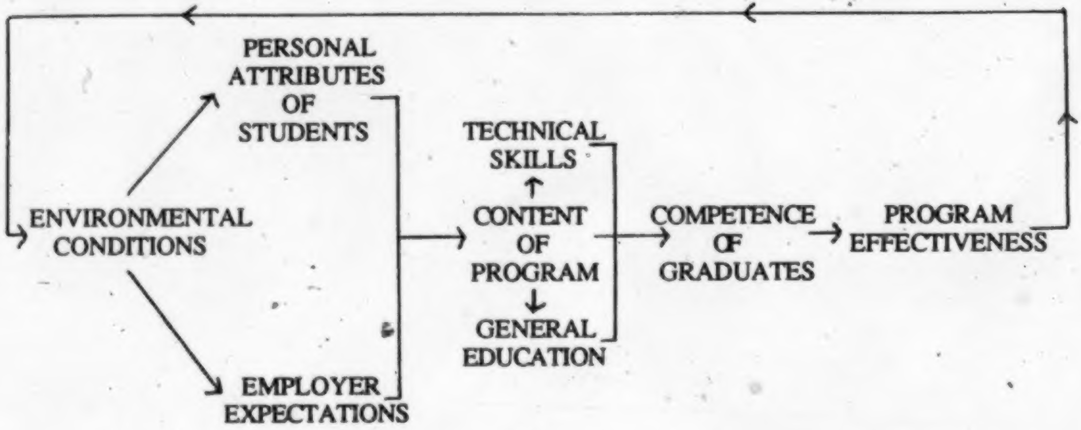

Figure 1. Factors Influencing Program Effectiveness

The external environments include the political/legal, societal, technological and economic circumstances. Although these environments are largely uncontrollable, an organization should be responsive to them and administrators should take them into account in decision making. In turn, the internal environment, which encompasses the institutional philosophy, also has considerable influence on decisions which may be made in various units within the organization. In particular, this philosophy is likely to have some influence upon curriculum decisions made at the program level. The degree to which the Marketing Management program responds to these environmental forces affects judgements about program effectiveness.

Employer expectations are influenced by the external environments as well. The organizations which employ graduates of the Marketing Management program must respond to the same environmental trends which face NAIT. The technological and economic environments, in particular, play a significant role in determining employer expectations.

Both personal attributes of students and employer expectations have an impact on content of the program. Employer expectations influence the skills which will be emphasized in the program. Also, the personal attributes which students bring to the program influence the degree to which technical skills and general education skills will be emphasized. The experiences of students in the program, together with their personal attributes, determine the competence of graduates.

Although the Marketing Management program does not have any control over environmental trends, program effectiveness does have some effect on the environment. In various indirect ways the effectiveness of the program, as reflected in the competence of graduates, influences environmental conditions to a degree. The effectiveness of the program at a particular point in time influences future employer expectations and characteristics of students attracted to the program.

Assumptions

A major assumption of the study is related to the effectiveness of the Marketing Management program. Judgements about the effectiveness of the program were assumed to be influenced by both the expectations of employers and their perceptions regarding the ability of the program to meet their needs. The extent to which the program is meeting the needs of employers was assumed to be indicated by the competence of graduates within the employers' organizations and by the inclusion into the program of skills on which employers place importance. With respect to using the perceived competence of graduates as a measure of employer satisfaction, it was assumed that the graduates were able to appropriately apply the skills learned in the program.

A further assumption was made regarding the ability of the employers to offer their opinions on the importance of job skills and on the ability of recent graduates to perform particular skills. Specifically, the assumption was that individuals who are responsible for supervising graduates also understand the position held by the graduate to an extent which enables them to judge the relative importance of various skills.

These key assumptions guided the researcher in developing the study, in designing the questionnaire, and in interpreting the data analysis. In addition, they relate to the delimitations and limitations of the study.

Delimitations and Limitations

The major delimitation of the study was that survey instrument was administered only to the supervisors of NAIT Marketing Management graduates who completed the program in either 1986, 1987, or 1988. Furthermore, the major focus of the study was on the knowledge and skills associated with the two-year Marketing Management program. Due to the breadth of course offerings within the program, and the necessity to limit the length of the questionnaire, the skills which are developed in some courses were excluded from the study. However, the skills included were from a cross-section of courses from both the first and second years of the program.

There are several limitations to the study. First, only employers of recent Marketing Management graduates were surveyed. Prospective employers who have either not had the opportunity or the inclination to hire graduates were not included in the sample. Consequently, while the perceptions of respondents have value for assessing the extent to which the program is responding to the needs of employers, a different perspective on importance of skills might be provided by those who do not employ NAIT graduates.

A second limitation relates to the possibility that the skills on which graduates were assessed by employers may have been acquired or developed somewhere other than in the Marketing Management program. This possibility should be kept in mind when examining the findings on the competence of the graduates with respect to skills developed in the program.

This study was also limited by the ability of respondents to reflect on the past, to consider the present, and to anticipate the future. In some instances, supervisors attempted to assess the competence of a graduate who was no longer employed in the organization. Questions might be raised about the ability of the supervisors to assess the competence of graduates, such as salespeople, who tend to perform their jobs independently. In addition, many of the graduates were employed in entry-level positions. Consequently, their supervisors, many of whom may be first level managers, may have limited knowledge of the skills listed in the questionnaire.

Each of these factors should be recognized as possible shortcomings of the study, and caution should be used in generalizing to other populations.

Definitions

Certain terms which have special meaning within the context this study, are defined below.

Skills: are abilities which may be developed or acquired. They may be divided into two groups: technical skills and general education skills.

Technical Skills: are those skills which are specific to marketing and marketing-related jobs which require some degree of training in order for employees to demonstrate competence as defined by employers. The ability to conduct an effective sales presentation is an example of a technical skill.

General Education Skills: are acquirable skills which are transferable, rather than job specific, and therefore tend to relate to the development of the whole person (Conrad, 1983). An example of a general education skill is the ability to demonstrate initiative.

Marketing: is the process of planning and executing the conception, pricing, promotion and distribution of products, as well as services and ideas, in order to facilitate exchanges that satisfy the needs of consumers while meeting organizational objectives (Cravens, Hills, and Woodruff, 1987).

Marketing Management: is the process of scanning the environment in order to identify and analyze market opportunities. This activity is followed by designing marketing strategies, and then effectively implementing and controlling those strategies (Cravens, Hills, and Woodruff, 1987).

Environments: are conditions external to an organization, largely uncontrollable, potentially relevant to decision making, and changing and/or constraining in nature.

Organization of the Thesis

The thesis is presented in five chapters. The problem statement and related research questions were identified in this first chapter. Included also were the background to the study as well as discussions which relate to purpose, significance, conceptual framework, delimitations, limitations and the assumptions. Described therein, is the conceptual framework which provided a focus for the research. The literature on follow-up studies, and on issues in vocational education, is reviewed in Chapter II. Presented in Chapter III is a description of the research methodology, including a discussion of the procedures used for questionnaire development, as well as the nature of data collection and analysis. The chapter closes with a summary of the characteristics of NAIT graduates and employers. Chapter IV includes a detailed presentation of the findings which were derived from an analysis of the data. The final chapter summarizes the thesis and presents the conclusions and recommendations of the study.

CHAPTER II

REVIEW OF THE LITERATURE

The literature relevant to the study is focused on three areas which serve as the basis for organizing this chapter. In the first section, issues which relate to the changing context of vocational education and the increased need for responsiveness by post-secondary institutions are identified. The second section contains a review of the literature regarding the nature of follow-up studies and their role in facilitating institutional responsiveness. Finally, related follow-up studies conducted about graduates of vocational-technical programs are reviewed. The chapter concludes with a discussion about the need for further follow-up studies.

Issues Related to Vocational Education

A review of literature focus on some major issues related to vocational education are presented under two main headings: changing context and program content.

Changing Context

Changes in the environments surrounding education in the last fifteen to twenty years have resulted in increased pressure on program planners to ensure that vocational programs are meeting the needs of employers. Several studies (Busha, 1978; Corey, et. al., 1983; and Crohn, 1983) have identified significant environmental trends that have an impact on employers and the specific needs for skilled employees which they are likely to have in the future. Rapid advances in the technological environment have particularly significant implications for employment and training. In recent years, there has been a shift in economic activity towards the service sector, and the "information revolution" has resulted in greater interdependence of the world economy (Martin & Tolson, 1985, p. 5). On this point, the Science Council of Canada (cited in Dennison & Gallagher, 1986 p. 136) recently issued sombre warnings regarding the declining competitiveness of Canada's workforce. Dennison & Gallagher (1986, p. 140) note that, in preparing for the "new economic age," Canada must reverse the earlier trend toward importing talent rather than developing it domestically.

In tracking the history and development of adult and higher education in Canada, Dennison and Gallagher (1986) note the influence of the community on both governments and educational institutions. They describe the positive economic climate and relatively generous government spending in Canada during the 1960s which set the stage for tremendous growth in the number and nature of institutions of higher education; additional support for higher education was provided readily by the public during this period. Institutions "developed specialized curricula which reflected both their practical mandate and the vocational needs of their students and of industrial society" (Dennison & Gallagher, 1986, p. 240). These authors go on the discuss the impact of the economic downturn in Canada during the 1970s, which contributed to public and private criticism of vocational education. Critics expressed their concern regarding high unemployment rates and what they perceived to be the failure of educational institutions to properly prepare individuals for gainful employment.

The following comments by Konrad and Small (1977) identify both some specific issues and the broader context in which they are embedded:

> Today's era of falling enrollments, consolidation of resources, fiscal restraint, the public's demand for accountability can be seen to reflect global changes in manpower needs and college population. . . . Unemployment of university and college graduates has become the focus of attack on the institutions by taxpayers, politicians, editorial writers and the graduates themselves. (p. 7)

The issues and changing context have direct implications for planners and administrators of vocational programs. Franchak and Spirer (1979) explain:

> As the importance of vocational training becomes more fully recognized and as more tax dollars are being invested in vocational education, precise and accurate information is being demanded by those individuals responsible for approving program expenditures. . . . The evaluation of vocational education is essential for its continuance and improvement. (p. 3)

As a consequence of Canada's economic downturn of the 1970s and 1980s and the ensuing period of fiscal restraint, the federal government has greatly emphasized accountability in educational programming. Evidence of this, as well as of support for vocational education and career preparation, includes the National Training Act of 1982 and its Canadian Occupational Projection System (COPS) (Dennison & Gallagher, 1986, p. 86). The Act is intended to clarify the role of the federal government with respect to financial assistance that it might provide educational institutions in meeting the needs of industry for skilled workers, whereas COPS identifies occupations for which industry is experiencing an increasing demand. However, any assistance which may be available to institutes of higher learning carries with it a certain degree of responsibility. Educational administrators are expected to ensure that vocational programs are effectively addressing and meeting the needs of employers.

In reflecting on the political and economic climate, Ottley (1973) suggests that "the need for accurate and detailed evaluation of the curricula is heightened by the intensified demands on the part of the public for increased accountability in education" (p. 2). He states that information obtained through follow-up studies may "be used by the institution to evaluate the effectiveness of its curricula offerings" (Ottley, 1973, p. 2). Konrad and Small (1977) also suggest that "follow-up activity should promote a closer match between education and manpower needs" (p. 8).

Although there is considerable evidence to confirm the trends described above, what is less clear at this time are the implications of these trends for the planning of vocational education. The literature shows evidence of a diversity of opinion regarding the nature and content of vocational education programs.

Program Content

Although issues about program content could be described in various ways, a general theme relates to the relative importance of technical skills versus general education. Advocates of the extreme positions might be labelled as vocationalists and generalists respectively. Knierim (1976) describes the two opposing points of view as follows:

> vocationalists are highly critical of the liberal arts preparation propounded by the generalists. . . . The generalists upbraid the vocationalists for promoting mere 'training' for work that may quickly become obsolete rather than 'education' for a career with a future. (p. 2)

One argument which favors the vocationalists' views is based on the rationale that institutes of higher learning traditionally position themselves to meet a specific need, or set of needs, within society. Some writers (Dennison & Gallagher, 1986; Kaysen, 1976) believe that the primary role of colleges and technical institutes is to train individuals for a profession. Related to this view, is the belief that the option of enrolling in career training programs should be available to students. In addition, studies reported by Knierim (1976) indicate that respondents from business and industry prefer to employ graduates with a business major rather than a liberal arts major. Finally, a social benefit is that vocational programs have contributed to increased accessibility to higher education (Knierim, 1976).

The views of the generalists are expressed in several ways. Although Dennison and Gallagher (1986) support the role of colleges and technical institutes in training individuals for a specific profession they, along with Knierim (1976), also emphasize the importance of a general education, rather than a narrow technical training, as preparation for lifelong learning. They state that "the heart of the curriculum of the future should be whatever will sustain the individual in a world of unprecedented change and complexity" (Dennison & Gallagher, 1986, p. 238). This is consistent with the view expressed in a study reported by Knierim (1976) which suggests that, while a high level of technical training may be necessary in a world facing rapid technological change, it is not sufficient for the survival of vocational graduates. On the contrary, the rate of change may accelerate the obsolescence of skills acquired in a vocational program. Knierim (1976) emphasizes the need for a review of higher education in response to changing environments.

Conrad (1983) presents a similar view which was expressed as long ago as 1947, when the President's Commission on Higher Education in the United States suggested that proper training entails a blending of general education with vocational and technical courses. The Commission emphasized the importance of social understanding in achieving technical competence.

Winter et al. (1981) conducted extensive research at liberal arts colleges and other postsecondary institutions. Results of their studies revealed that students at liberal arts colleges scored significantly higher than their counterparts at vocational and community colleges when tested on competence in critical thinking, leadership capacity, and adaptability. They concluded that the benefits of a liberal arts education cannot be gained through other training programs.

In an analysis of the trends which are having an impact on higher education, Corey et al. (1983) identify two factors that have considerable influence on college curricula planning. First, there is increasing pressure on individuals to recognize the need for lifelong learning. Second, rapid advances in technology necessitate training and retraining for employees. In addition, they voice concern regarding the issue of preparation for specific careers versus the development of general skills.

In a study conducted in 1972, Orange found that employers emphasized the importance of general skills and that they preferred business graduates with a "well-rounded" education. The employers also considered college training in English and literature invaluable for a future in business. They expressed dissatisfaction with managerial employees who specialized before achieving an appropriate level of general education.

Knold (1986), in a survey of the attitudes of Washington state employers regarding postsecondary vocational education programs, found that most respondents were generally satisfied with the career preparation provided by community colleges and vocational-technical institutes. However, employers also expressed the view that "without employability skills, [including positive work habits, English language comprehension, basic math skills, and problem solving skills], having a specific technical or vocational skill will be of minimal value within the work place" (Knold, 1986, p. 26).

During a survey of Northwestern United States business executives, Crohn (1983) found that "providing students with a basic core curriculum emphasizing an interdisciplinary approach appeared to be the most appropriate and feasible way of meeting the future demands of employers."

An employer needs assessment study conducted by Busha (1978), revealed that many respondents expressed general satisfaction with the job performance of technical college graduates. However, they also stated a need for graduates who show pride in workmanship and quality control.

In contrast to the results of the studies already discussed, employers surveyed in Virginia suggested that the skills required by employers are becoming more technical, occupations are becoming more specialized, and employers are placing greater emphasis on client and customer relations (Martin and Tolson, 1985, p. 5).

The Illinois State Board of Education (1986) emphasizes the importance of both technical and general skills. Their publication entitled Business, Marketing and Management Occupations. Education for Employment Task Lists identifies technical and employability skills which are thought to be relevant for various occupations. Technical skills considered to be relevant to marketing positions include various sales, promotions and merchandising skills. Employability, or general, skills identified include particular communication and problem solving skills.

In general, there is considerable diversity of opinion regarding the way in which postsecondary institutions should be responding to the changing needs of employers within the framework of dynamic environmental forces. However, it is clear that the impact of environmental forces, particularly the pressure of public opinion regarding the role and performance of educational institutions, necessitates that educational planners be responsive to the needs of the community, employers and students. While employers surveyed tend to express general satisfaction with a variety of vocational education programs, many place a priority on general or employability skills. Consequently, the literature tends to reveal increased demand by employers for greater emphasis on the development of general, non-technical skills in vocational education programs. Further research, particularly follow-up studies, may be useful in addressing program issues of this nature and for assessing the responsiveness of educational institutions to the changing context.

Nature of Follow-up Studies

In the last ten to fifteen years, considerable emphasis has been placed on follow-up studies conducted by educational institutions and related agencies. A review of the literature reveals that, up until recently, follow-up studies tended to be overlooked by educational administrators and program planners as a means of gathering information for decision making purposes. Presented in this section is an explanation of the relationship of follow-up studies to evaluation, including some definitions of follow-up studies. A discussion of the rationale for conducting such studies is followed by a brief description of the types of studies which have been conducted.

Follow-up Studies and Evaluation

Evaluation is described by Stufflebeam (1970) as "the process of delineating, obtaining, and providing useful information for judging decision alternatives" (p. 129). Further to this, Clarke, Konrad, Ottley, and Ramer (1973) indicate that

> the ultimate aim of evaluation in education is the improvement of learning, and thus change is always implied by the concept of evaluation. . . . Evaluation involves creative ways of devising and implementing means for reacting to and integrating . . . internal and external forces. (p. 8)

Follow-up studies are one aspect or one approach to program evaluation. Some definitions of follow-up studies are rather generic, while others place them within the context of particular student groups.

Franchak and Spirer (1979) describe a follow-up study as a

> subsystem of a comprehensive evaluation system perceived as having methods and techniques for assessing the outcomes of a vocational education program. Like all other evaluation techniques, follow-up studies are designed to gather and provide useful information for decision-making. (p. 3)

Although these authors provide a worthwhile description of follow-up studies of vocational education programs, such studies are not restricted to this sphere of education. Clarke et al. (1973) concur with the preceding description of follow-up studies and indicate that such studies "are simply a particular subset of methodologies within the broader domain of educational evaluation" (p. 2). In addition, they cite Deem (1969), who describes follow-up studies more specifically by indicating that they are those studies which are "directed toward obtaining data, information, or opinions about or from former students" (p. 2).

Sharp and Krasnegor (1966) provide a generic definition when they state that "follow-up studies involve research designs which require a contact with individuals who have shared an experience in the past and whom the researcher desires to study or restudy" (p. 1). According to Clarke et al. (1973),

> follow-up studies have been defined as the subset of evaluation studies which employ data provided by students at various stages

> in their educational careers. Follow-up studies are not a clearly bounded subset, but rather a highly integrated part of a dynamic system of evaluation. (p. 29)

In general, follow-up studies may be viewed as a particular means of education evaluation involving the collection of information regarding former students. Within the context of these definitions, the rationale for conducting follow-up studies may be examined with respect to their value to planners of vocational education programs.

Rationale for Conducting Follow-up Studies

A review of the literature reveals that a variety of reasons are offered to justify the use of follow-up studies in relation to vocational education programs. However, regardless of the seeming diversity of arguments presented, the rationale for conducting follow-up studies may be reduced to one major factor: the need for vocational education programs and institutions to be responsive to the community, to employers and to students. In advocating a systems approach to conducting follow-up studies, Clarke et al. (1973) cite Morphet (1971), who makes this point:

> For too long the educational system has been viewed . . . as a self-sufficient system . . . quite autonomous and independent of other systems. . . . In reality, the educational system interacts with other systems of which it is a part, for example, the community . . . . What is implied is that a consideration of the needs of the total environment of the educational system, both internal and external, is vital in systematic planning in education. (p. 12)

The systems approach, such as that referred to above, has influenced the work of researchers in recent years with respect to follow-up studies. As a form of evaluation, follow-up studies are intended to provide vocational program planners with information in order to respond to internal and external forces. This usually means responding to the needs of at least three major groups: the community, whose needs are often voiced through the political environment; the employers in local industry; and the students, including those who are considering entering the system and those who have already left the system.

Konrad and Small (1977) focus on the responsive role of institutions, by suggesting that the data acquired in follow-up studies may be used "to assess the relevance of their program offerings to the needs of industry" (p. 8). Evidence to support this view is provided by Palmer (1984) when he states that "growing numbers of states require follow-up studies of community college vocational students" (p. 2). He suggests that "follow-up studies, then, are central to the community college institutional research effort" (Palmer, 1984, p. 2). In a similar vein, Sharp and Krasnegor (1966) state that there is "not enough information . . . available about the nature of optimal preparation for the various types of jobs for which vocational students are trained" (p. 18). They suggest that follow-up studies would be valuable in this regard.

In describing how the Kentucky Vocational Education Placement and Follow-up System assists planners in justifying vocational program expenditures, Scott and Chapman (1981) explain that "evidence must be gathered to prove that the extra expenditure will result in preparing better qualified employees that are demanded by the work community" (p. 1). Ramer (1974) concluded from his study on Gas Technology graduates of the Northern Alberta Institute of Technology that it is "important for the institution to know how the employers view the training of graduates as judged by their preparedness for employment in their fields" (p. 3). The implication is that vocational programs should be responsive and should seek to meet the needs of employers.

The recommendation is made in several follow-up studies (Mackie, 1981;

Palmer, 1984; Simpson, 1986) that employers be surveyed in order to assess the relevance of vocational programs to the needs of that group. The follow-up study seems to be an appropriate vehicle for this research.

Clearly, the literature reflects an orientation towards the needs of employers as a primary rationale for conducting follow-up studies. Scholars and other researchers alike emphasize the importance of the responsive role of vocational programs within the dynamic environment in which they operate.

The rationale for conducting follow-up studies extends to the necessity for responsiveness to another significant group, namely the students. The literature indicates that student satisfaction, which is an indicator of the success of a program, may be measured to some extent through follow-up studies. In describing the major purposes of follow-up studies, Franchak and Spirer (1979) note that such studies relate to students in two ways: firstly, former students may be given the opportunity to reappraise their vocational plans; and secondly, the information acquired may assist program planners in ensuring that the vocational program meets the needs of students in a more effective manner.

Konrad and Small (1977) state that "a basic purpose in follow-up studies is to provide a communication link between an institution and its students" (p. 5). Regarding this communication link, Franchak and Spirer (1979) suggest that a vocational program which responds to, and implements some of the suggestions made by students participating in a follow-up study may enjoy the advantage of enhanced credibility and rapport with this group (p. 138). In a thesis entitled A Follow-up Study of the 1978-79 Business Education Students of the Alberta Vocational Centre, Edmonton, Mackie (1981) states that a basic purpose of follow-up studies is to "determine the perception of the participants in the study as to the suitability of the preparation for employment" so that subsequent curricula improvements may reflect the needs of students (p. 8). Ottley (1973) and Tolmie (1979) generally agree with this assessment.

Researchers who conduct follow-up studies stress the significance of program responsiveness to students as a basic purpose for such studies. It should be noted, however, that there is a close relationship between the needs of students, employers, and the community. Rationales offered by program planners for conducting follow-up studies would seem to reflect a recognition of this interrelationship. Furthermore, program planners seemingly acknowledge the place that their programs or institutions holds within dynamic educational and social systems.

Types of Follow-up Studies

Described in the literature are a number of types of follow-up studies which may suit the varying purposes of program evaluators. Sharp and Krasnegor (1966) organize them into two groups: descriptive and explanatory studies.

According to Sharp and Krasnegor (1966), descriptive studies tend to focus only on "data about the specific employment status of the training graduates at one point in time" (p. 3). However, they may be quite analytical, as in a one-time study which focuses on the graduate's employment and personal situation with respect to background, ability, and training (p. 7). These studies tend to focus on individual programs.

A more sophisticated descriptive study is the trend study which facilitates comparisons regarding employment between at least two groups who have completed vocational programs at different times. A descriptive study may be longitudinal, which allows the researcher to chart the career development of vocational program graduates over a number of years. Sharp and Krasnegor (1966) note that, although the researcher may experience difficulties in tracking graduates, this design often provides a "more valuable and accurate picture of the success or failure of vocational training" (p. 10).

One-time, trend, and longitudinal studies are all appropriate designs for assessing program effectiveness, but are limited with respect to their ability to identify causes when evaluating a program. Studies which are considered to be more suitable for this purpose are explanatory studies. Explanatory studies, which may be diagnostic or experimental in nature, attempt to "search for possible causes in evaluating a situation" or manipulate the environment in order to gain a better understanding of a program (Sharp & Krasnegor, 1966, p. 10).

Specifically, diagnostic follow-up studies, which are rather common, are often designed to determine the effect of various vocational education factors on the lives of program graduates. This may be achieved through comparative studies which examine a number of groups "who have received different types of vocational education" in order to determine the effects of such factors as "differing employment histories in differing characteristics of groups, or in differing qualities and types of vocational training" (Sharp & Krasnegor, 1966, p. 12). These same authors indicate that data for such studies may be acquired from a number of sources including employers, placement personnel and graduates and that "analysis is extensive and deeply involved in psychological, sociological, and economic dimensions" (p. 12).

The experimental follow-up study often involves a manipulation of the vocational education situation; conclusions are then drawn from the results of each teaching method. Experimentation might involve providing students with a variety of training situations including work experience, classroom study or a combination thereof and, then, drawing conclusions about the relative merits of training situations based upon the observed results.

Although diagnostic studies are more common than experimental studies, both offer significant contributions to program planners who desire to improve curricula so that it is more relevant to the career preparation needs of students.

Procedures for Conducting Follow-up Studies

Many of the principles relating to the proper procedures required for conducting research apply to follow-up studies. However, some considerations are particularly relevant to the effective planning of a follow-up study.

A number of writers (Franchak & Spirer, 1978; Scott & Chapman, 1981; Simpson, 1986) provide detailed descriptions of the procedures for conducting follow-up studies. While the methods they describe vary to some degree, several common factors may be drawn from these descriptions. In particular, these include the establishment of objectives, the determination of an appropriate means of surveying respondents, the identification of groups to be surveyed, and the determination of the most suitable timing for the study.

Franchak and Spirer (1978) indicate that the researcher must begin the process by developing the objectives for the follow-up study and by determining what groups will be using the data collected (p. 27). In their review of the Kentucky Vocational Education Placement and Follow-up System, Scott and Chapman (1981) reveal that these steps were taken by evaluators.

If the objectives for the study have been clearly identified, then development of the survey instrument may follow directly from the objectives.

A questionnaire which is mailed to respondents, including former students and employers of former students "is one of the most frequently employed methods" of data collection (Franchak and Spirer, 1978). This method has been used in numerous follow-up studies (Franchak and Spirer, 1978; Lucas, 1984; Reed, 1986; Simpson, 1986). However, in a study conducted by the Instructional Development and Evaluation Associates, Inc. (1981), it was found that a higher response rate was achieved with a telephone survey compared to a mail survey.

Depending on the objectives outlined for the study, the researcher must decide whether to survey former students, employers of formers students or other groups. On this point, Scott and Chapman (1981) concluded that data acquired from former vocational students and data acquired from employers regarding employee performance are most useful for program improvement (p. 24).

Another issue of significance regarding the planning of a follow-up study is the timing of the study. Timing will be largely influenced by the objectives of the study. Clarke et al. (1973) and Franchak and Spirer (1978) address this issue. Clarke et al. (1973) indicate that a follow-up study may be conducted as soon as orientation procedures for a new program of study have been completed in order to assess the relevance of this activity to new vocational program students (p. 35). Exit interviews are a popular means of gathering data before students graduate from a program and leave the institution. Franchak and Spirer (1978) recommend that post-graduation follow-up studies be conducted one year and three years after graduation (p. 95). This gives the graduate time to adjust to a new position within the workplace and allows the researcher to acknowledge the effect of intervening variables such as on-the-job training.

Need for Follow-up Studies

The literature reflects an orientation towards the needs of employers and students as a primary rationale for conducting follow-up studies. Scholars and other researchers alike emphasize the importance of responsiveness of vocational programs to the dynamic environment in which they operate.

Since follow-up studies have been conducted in the United States in one form or another for approximately sixty years, there are numerous reports of such studies in the literature (Murphy, 1976, p. 41). First impressions suggest that this area has been thoroughly examined. However, upon closer examination it becomes apparent that there exist gaps in the knowledge relating to the follow-up of graduates of vocational education programs. For instance, the majority of follow-up studies have been conducted in the United States, while there has been a paucity of similar research done in Canada. More specific gaps in the literature suggest the need for further follow-up studies.

In a comprehensive review of the literature, Sharp and Krasnegor (1966) identify areas requiring additional research. In particular, they note that "the most serious gap is the lack of follow-up information at the post high school level for those trained in technical institutes and junior colleges" (p. v). They also emphasize the need to study employer preferences as they relate to labor market requirements (Sharp & Krasnegor, 1966, p. 22).

Sharp and Krasnegor (1966) indicate further, that while considerable work has taken place with respect to institute wide and state wide follow-up studies, "there is a continuing need for intensive small scale studies of particular areas, programs, and factors" (p. vi). More recently, Wentling and

Barnard (1984) found that, in the United States, "the largest number of follow-up studies appear to be conducted at the local level . . . often within the community college" (p. 11).

Palmer (1984) recommends that longitudinal studies of people entering community college vocational programs would enhance knowledge about graduates of such programs (p. 25). By soliciting demographic and occupational information from individuals who enter vocational programs, researchers may have a basis for determining the influence of extraneous variables on subsequent job performance. In addition, he suggests that "surveys of representative samples of employers" would achieve a similar objective (Palmer, 1984, p. 25). Sharp and Krasnegor (1966) state that "follow-up studies of vocational education program graduates have been demonstrated to be useful tools in the evaluation of training and should be available as a regular input for future program assessment" (p. 19).

In summary, a review of the literature indicates that further research is necessary in order to eliminate the gaps which currently exist in the knowledge about vocational program graduates. Ongoing efforts with respect to follow-up studies should contribute positively to improvement objectives within vocational programs.

Related Follow-up Studies

Examination of the literature suggests that studies which focus on employer perceptions of business graduates of vocational/technical programs are limited in number. Highlighted in this section are studies which report the views of employers regarding skills which are required within their organizations. Other studies which report the level of satisfaction experienced by graduates of vocational programs are also presented.

Martin and Tolson (1985) examined the perceptions of employers in Virginia regarding changing job skills. Employers from a cross-section of the economy indicated that a variety of job skills are becoming more important, including basic skills such as reading, writing and arithmetic; interpersonal skills, such as good personal hygiene the ability to get along with co-workers as well as clients; and reasoning and generalizing skills. Martin and Tolson (1985) also found that employers have rising expectations regarding the character of employees and the traditional work ethic. They found an increasing demand for employees with a cooperative attitude who are dependable and honest (p. 135).

Crohn (1983) examined the views of leading Northwest U.S. business executives regarding the need for technological literacy in the 1990s and beyond. On the basis of her research, as well as an extensive review of the literature, Crohn (1983) concluded that

> employers look for workers who can listen, think, communicate and get along with others. Future workers will need good thinking, comprehension, and evaluative skills in order to understand the inner structure of systems, not just of specific duties. . . . Many employers . . . call for the development of higher level conceptual skills, including reasoning, analyzing, making inferences and problem solving. . . . most workers will need to be resilient, versatile, independent and able to interact cooperatively and ethically with others. (p. 3)

Crohn (1983) recommended that educators address the relationship between liberal arts and technological literacy in an effort to meet the needs of students as well as of employers (p. 5).

Alford (1986) surveyed 230 business managers from the Administrative Management Society in the states of Connecticut, Delaware, New Jersey, New York and Pennsylvania in order to identify core competencies needed by community college business graduates for success in business. Respondents indicated that the single most important competency required for success in business is the ability to follow written and oral instructions. Other competencies identified by managers as being important include communicating, problem solving, understanding personal and interpersonal skills and understanding speciality skills. In assessing the competency level of graduates "more than 60% of business managers find written communication skills lacking in community college graduates; almost 50% find listening skills and time management skills lacking" (Alford, 1986).

In a related study, Davis (1985) sought to determine the extent to which the Business Management Administration curriculum at Bryant and Stratton Business Institute was effective in preparing graduates for initial employment. The Delphi Technique was used to obtain the opinions of employers and instructors of graduates. While respondents generally agreed that the curriculum was meeting the needs of graduates, they stressed the need for greater emphasis to be placed on communication skills as well as basic mathematics and computer skills (Davis, 1985).

Ottley (1973) studied individuals who graduated from the Northern Alberta Institute of Technology Gas Technology program between 1965 and 1971 inclusive. He attempted to determine the employment activities of graduates and to assess the contribution of the Gas Technology program in preparing graduates for employment by surveying both graduates and their employers. He found that, for the most part, the curriculum was suitable in preparing graduates for employment. In addition, employers indicated that

> in comparing graduates with other new employees having equal experience but no formal technical training . . . graduates got

> better jobs, were better prepared to handle their initial jobs, and needed less on-the-job training than these other new employees. (Ottley, 1973, p. 129)

Conclusions drawn from this study indicate that graduates and their supervisors tended to agree regarding their positive assessment of the Gas Technology program (Ottley, 1973, p. 130).

In a related study, Ramer (1974) provided a detailed description of graduates of the Gas Technology program at the Northern Alberta Institute of Technology and examined their perceptions of the program and its contribution to their career preparation. Graduates indicated that they would recommend the Gas Technology program to prospective students. Furthermore, they rated the NAIT curriculum very highly in terms of its usefulnesss in career preparation. Finally, in assessing the value of various curriculum areas for success on the job, graduates ranked English as the third most important of ten subject areas after gas processing and instrumentation. On this point, Ramer (1974) recommended that "research should be done to see if this view is generally held by students in technology programs, with the possibility in mind of giving English instruction greater emphasis" (p. 134).

In a master's thesis entitled A Follow-up Study of the 1978-79 Business Education Students of the Alberta Vocational Centre, Edmonton, Mackie (1981) attempted to identify the nature of employment acquired by graduates of the Business Education program, and to obtain their perceptions regarding the relevance of their training to jobs acquired. Mackie (1981) found that 82% of graduates were employed and that all of them found positions which related to their programs of study. All those employed indicated satisfaction with their present work. The large majority of graduates, 90.7%, rated their training as either "of much use" or "of some use" as preparation for their current positions. In assessing the importance of curriculum areas in the Business

Education program, graduates ranked English/Business Communications second out of twelve subjects after typewriting and spelling. Although graduates expressed general satisfaction regarding the ability of the Business Education program to prepare them for employment, Mackie (1981) recommended "that a study be conducted to determine the perceptions of employers regarding relevancy of the training offered" (p. 152).

Miller (1984) surveyed the 1980 and 1981 graduates of a particular high school whose first full-time position was in an office in order to determine what skills were being used by these individuals and to assess whether the needs of entry level offices workers were being met in the business education program at the high school. Graduates indicated that, although many of the skills taught in the business education program were useful in their office positions, a number of skills necessary for success had to be learned on the job since they were not included in curriculum in high school. In addition, several skills taught in the program were deemed by graduates to be unimportant for success in their jobs. As a result, Miller (1984) recommended that the curriculum in the business education program be closely examined by business educators on a course by course, unit by unit basis in order to improve content. In particular, she recommended that human relations activities by emphasized in the curriculum (Miller, 1984, p. 83). Finally, Miller (1984) also recommended that employers of graduates be surveyed to obtain their perceptions of the appropriateness of the curriculum offered in the business education program at the high school (p. 85).

Uttaro (1972) surveyed vocational high school students in the Edmonton Public School Board system, their instructors and potential employers to determine whether these groups agreed on the relative importance of six personal qualities deemed important for employability. The six personal qualities included the ability to converse with others, and the ability to demonstrate courtesy, efficiency, neatness and pride in work. Research results revealed that students, instructors and employers were in close agreement regarding the relative importance of the various skills: they ranked pride in work and efficiency as being the most important employability skills, and neatness and conversation as being the least important. Uttaro (1972) recommended that "a further study to determine the extent to which employers' expectations are actually met in the hiring of vocational high school graduates is desirable to provide a broader base upon which to evaluate curriculum changes" (p. 61).

Tapscott (1978) conducted a follow-up study of 1976-1977 Industrial Education students from Edmonton Public Schools in order to determine the employment experiences of graduates and early leavers of the program with the objective of evaluating its effectiveness. He concluded that unemployment rates for graduates and early leavers are similar, that both groups found jobs relatively quickly, and that income levels are similar. No conclusions were drawn regarding the effectiveness of the Industrial Education program in the the Edmonton Public High Schools. Instead, Tapscott (1978) pointed to the need for further research in this area (p. 61).

In a follow-up study of graduates of an experimental program in Building Construction in Oliver, British Columbia, Tolmie (1979) sought feedback from former students regarding the success of the program with respect to career preparation and preparation for postsecondary training of graduates. Regarding the ability of the program to prepare graduates for work, 57% indicated that their training was "of great value." Since none of the graduates enrolled in further training programs, Tolmie found it difficult to assess their preparation for postsecondary studies. He recommended that "continuous follow-up of graduates is necessary to establish data for continuous rational decision making" and that "the collection of data from other sources, such as employers is required to provide additional information for program evaluation" (Tolmie, 1979, p. 74).

Summary

The changing economic context has raised a variety of issues which have implications for planning vocational education programs. A debate regarding vocational/technical education versus general education persists and vocational educators continue to disagree on the ways in which they should respond to the needs of employers, students and the community. Among the rationales for conducting follow-up studies were those that related to the importance of program responsiveness to internal and external environmental factors. Studies reported in the literature suggest that such studies may provide the basis necessary for institutional responsiveness. Follow-up studies tend to focus on employers perceptions regarding skills which are required within their organizations and on the perceptions of students regarding their level of satisfaction with the vocational education programs in which they participated. Results of such studies have the potential to serve as a base for decisions about program changes.

CHAPTER III

RESEARCH METHODOLOGY

The research methodology described in this chapter includes a discussion of the procedures used in designing the questionnaire as well as the steps associated with data collection. In addition, the methods used for data analysis are described. The chapter concludes with some descriptive information about the respondents.

Questionnaire Development

Borg and Gall (1983) identified several steps which should be taken when preparing questionnaires. In accordance with their recommendations, this researcher began by reviewing the objectives of the study. The items included in the questionnaire were limited to those which would yield data that could be used to answer the major research question and the related sub-problems. Other steps discussed below include item generation, questionnaire design and questionnaire piloting.

Item Generation

In order to ensure that valid items were included in the questionnaire, potential items were developed on the basis of a review of the literature as well as through consultation with administrators and instructional staff in the Marketing Management program at NAIT.

Items included in the first section of the questionnaire were designed to gather general information about the graduate and the employing organization. These items were generated by reviewing questionnaires which were used in similar follow-up studies and by consulting with the Marketing Management Program Head.

An extensive list of vocational/technical and general education skills was developed for the second section of the questionnaire. Several studies (Busha, 1978; Crohn, 1983; Illinois State Board of Education, 1986; Knierim, 1976; Knold, 1986; and Martin & Tolson, 1985) proved to be particularly helpful in preparing this list. In addition, Course Co-ordinators in the Marketing Management program were asked to identify skills that students who successfully complete a particular course should possess. Finally, course descriptions and course outlines were examined in order to identify any relevant items which might have been overlooked. Items which were obtained from each of these sources were compiled into a list of approximately 100 skills.

The questions included in the third and fourth sections of the questionnaire were primarily intended to enhance the information gathered in the previous section. Employers were asked, firstly, to indicate their preference for general knowledge versus specific skills and secondly, to rank order the importance of ten skill categories. A review of other follow-up studies was helpful in generating these items.

Once potential items were generated for each section of the questionnaire, attention was directed toward ensuring that those items selected would be appropriate for the purposes of the study.

Item Selection

A number of steps were taken to ensure that the items included in Section II of the questionnaire were valid. Once the list of skills was prepared, two program administrators and ten instructional staff members were asked to review it in order to establish content validity.

Instructors in the Marketing Management program were provided with the list of skills generated, as described above, and were asked to rate only those skills which related to courses that they teach. Respondents were asked to indicate the extent to which the program attempts to develop particular skills by using a five-point scale (5 being a "to very great extent" and 1 being "not at all"). Those items which were rated from 3 to 5 by instructors were selected for the questionnaire. Thirty items which were found to be either redundant or irrelevant were eliminated from the list. The final result was a list of seventy skills relating to ten skill categories.

Three of the seven technical skill categories were promotions, including the ability to stimulate repeat business and to determine customer needs; merchandising, which involves the ability to conduct a location analysis and to prepare merchandise budgets; and marketing research and statistics, which requires the ability to define marketing problems and to develop hypotheses. Other technical skill categories were accounting, including the ability to evaluate financial performance and to use capital budgeting techniques; law, which requires an understanding of both the judicial process and the jurisdiction of the courts; and business mathematics, which involves the ability to perform purchasing and foreign exchange calculations. The final technical skill category was economics, which includes the ability to understand the principles of price sensitivity and the functioning of fiscal policy. The remaining three categories, which represent general education skills, were communications, including the ability to follow written and spoken instructions; problem solving, which involves the ability to identify problems and propose solutions; and work habits and attitudes, including a demonstration of intuition and sensitivity.

Once this list of skills was prepared, all four sections of the questionnaire were presented to the Program Head for his consideration. He was asked to review the seventy items included in the list of skills and to assess the uniqueness and relevance of each item. In addition, he was asked to ensure the appropriateness of the terminology used in the list. Upon his evaluation and approval, the researcher proceeded to finalize the design of the questionnaire.

Designing the Questionnaire

According to Borg and Gall (1983), once items have been selected, attention should be focused on designing the questionnaire in a format that will enhance the achievement of the objectives of the study (p. 415).

With respect to questionnaire design, Borg and Gall (1983) also note that "questions may be of either the **closed form** in which the question permits certain responses, or the **open form** in which the subject makes any response he wishes in his own words" (p. 419). They also indicate that, while closed questions facilitate the efficient quantification of results, consideration must be given to the objectives of the questions.

While the questionnaire used in this study included both open and closed questions, two sets of closed-ended questions designed to answer four of the research questions identified in Chapter I were the primary source of data. For each of seventy items listed in Section II, respondents were asked:

> In your opinion, how important is this particular skill, knowledge, or competency to the position for which you hired a NAIT Marketing Management graduate?
>
> and
>
> How competent is (was) the NAIT Marketing Management graduate, employed by your firm, in applying this knowledge or skill in your workplace?

Respondents were asked to rate the importance of each skill on a five-point scale, with 5 being "extremely important" and 1 being "not important". In addition, respondents were given the opportunity to indicate that a specific skill was not applicable to a particular position by selecting 0. A five-point scale was also used by respondents to rate the competence of graduates to perform skills (with 5 being "highly competent" and 1 being "limited competence"). Once again, respondents could select 0 to indicate that they did not know the level of competence of the graduate for a specific skill, or that the skill was not applicable and, therefore, competence could not be assessed.

Two additional closed-ended questions were intended to establish the respondents' perceptions regarding the importance of various skills developed in the program. First of all, respondents were asked:

> To what extent do you prefer to hire a NAIT graduate with general understanding/knowledge in this area versus the ability to perform specific tasks/skills?

Respondents were asked to show their preference on a five-point scale, with 5 indicating a preference for "general knowledge" and 1 indicating a preference for "specific skills". Respondents could also select 0 to show that the skill category was not applicable to the position being evaluated.

An additional closed-ended question asked that respondents rank ten skill categories from 1 to 10 (with 1 being the "most important" item and 10 being the "least important" item) according to their relative importance to the position for which the organization hired a NAIT Marketing Management graduate.

One open-ended question was used to acquire information on the fourth research question which sought to establish what skills employers think will be important in the future. Specifically, respondents were asked:

> In the space below, please identify 3 of the most important job skills that your company will require of NAIT Marketing Management graduates in the next 5 years.

In addition to acquiring data which related to each of the research questions identified in Chapter I, five questions were intended to gather information about the graduate and employing organization. Respondents were asked to indicate the nature of the organization with which they are involved, the size of the organization, and the number of years that the graduate had been employed with the organization by choosing the appropriate category. In addition, two open-ended questions were used which asked respondents to indicate the graduate's position and their organizational relationship to the graduate. The researcher attempted to observe the rules for constructing questionnaire items identified in Borg and Gall (1983) and Merriam and Simpson (1984), which are designed to ensure that survey questions provide focus and clarity, as well as the appropriate alternatives for respondents. Borg and Gall (1983) note that the questionnaire format should be carefully considered so that respondents will find instructions and questions both clear and easy to follow. While many of these factors were addressed in the design process, the researcher sought the technical assistance of staff in Program Development Services at NAIT so that the questionnaire and cover letter could be prepared and printed attractively, professionally and comprehensibly.

Pilot Tests

Borg and Gall (1983) recommend that pilot studies, or pretests, be conducted on survey questionnaires. The purpose of pretests is to help the researcher determine if the wording of questions is clear and unambiguous, if the methods to be used for summarizing the data will be appropriate, and if additional questions might be asked.

Before conducting a pretest with a sample, the researcher sought the advice of administrative and instructional staff in the Marketing Management program, as well as technical experts in Program Development Services at NAIT. These two groups reviewed the questionnaire in order to identify ambiguities in the wording and formatting of items; in addition, Program Development Services staff members reviewed the questionnaire to ensure an effective layout. Consequently, the questionnaire evolved through several drafts which involved relatively minor changes in wording and formatting, to the form that was used for pretesting.

While respondents chosen for the pretests need not be randomly selected, they should be from a population similar to that chosen for the study (Borg and Gall, 1983, p. 303). Twelve respondents were selected from a list of employers of Marketing Management graduates to pilot test the questionnaire; three individuals surveyed were members of the Advisory Committee of the Marketing Management program, and the remaining nine respondents were personally known to the researcher. After first obtaining their agreement and cooperation over the telephone, a questionnaire was mailed to each respondent.

Once the twelve completed questionnaires were returned by mail, the researcher reviewed the responses and other comments made by respondents. The respondents appeared to have completed the questionnaire properly; only one respondent made a critical comment regarding the wording of instructions which were perceived to be unclear. Suggestions regarding the wording of instructions were taken into account and the appropriate changes were made. Since only one respondent commented on the length of the questionnaire, no changes were made in this regard because the items included were deemed by the researcher to be both valid and important.

A copy of the questionnaire is presented in Appendix A.

Data Collection and Analysis

The procedures associated with data collection which were used in the study include the selection of a sample and the distribution of the questionnaires followed by the tabulation of results. Each of these procedures is discussed in this section.

Sample Selection

The population from which the sample for the study was drawn included employers who had hired NAIT Marketing Management students who graduated in either 1986, 1987 or 1988. More specifically, the supervisors of graduates within the employing organizations were included in the sample since they were assumed to be best qualified to assess the importance of skills and the competence of graduates to perform those skills.

Although the primary source of information regarding the population was the Placement Centre at NAIT, informal records held in the Marketing Management program were also accessed; the business cards of graduates, which identified their place of employment, were used to contact supervisors. While the Placement Centre maintains employment data on program graduates, technical changes which were being implemented in the information system at NAIT made accessing these data extremely difficult. As a result, the researcher was unable to generate a large enough frame to allow sampling from the population. Consequently, all 101 identifiable employers were surveyed.

Questionnaire Distribution

On October 13, 1988 an envelope was mailed to the 101 employers which included a covering letter, a copy of the questionnaire, a postage-paid postcard which respondents could mail to indicate that they had completed the questionnaire, and a postage-paid return envelope. On November 4, a follow-up letter was sent to those employers who had not mailed the postage-paid postcard and who, presumably, had not completed the questionnaire. Included with the letter was an additional copy of the questionnaire, the postage-paid postcard and a postage-paid return envelope. Employers were encouraged to complete the questionnaire; the importance of their participation in the study was emphasized. A second follow-up letter was sent, along with all of the above mentioned materials, to those employers for whom completed questionnaires had not been received by the researcher. This packet was mailed on December 9. Copies of materials mailed to employers are included in Appendix B.

Response

Returns were received during the period beginning October 25 and ending December 22, 1988. A total of fifty-seven respondents completed the questionnaire. Forty-two responses were received after the first mailing, nine after the second, and six following the final mailing. An additional fifteen questionnaires were returned by employers for two main reasons; fourteen employers indicated that they had never hired a Marketing Management graduate, while one other noted that the questionnaire could not be completed since the supervisor of the graduate in their employ had been transferred out of the city. One questionnaire packet was returned unopened as the address of the employer was unknown.

The overall response rate was 67.1%, excluding those questionnaires which were returned not completed as described above. There was no indication from non-respondents as to why they did not complete and return the questionnaire.

Data Analysis

Completed questionnaires were coded so that data could be keyed into the NAIT computer for analysis using the StatsPlus software package. Both descriptive statistics and inferential statistics were used in the analysis of the responses to closed-ended questions.

The descriptive statistics generated included frequency distributions, which are shown in Appendix C, as well as percentages and means. Frequency distributions for some variables were also displayed in cross tabulations.

Inferential statistics were calculated using two different tests; t-tests and Chi-square. A t-test for non-independent samples was computed in order to determine differences between the means of various responses. In particular, t-tests were used to examine employers' perceptions regarding the importance of skills and the competence of graduates to perform those skills by comparing the means of each set of responses. Chi-square tests were used to explore relationships between particular variables. A Chi-square test was computed to determine whether or not there is a contingency between the size of organization employing graduates and the importance that the employer places on particular skills. In addition, a t-test was used to explore the contingency between length of service and the competence of a graduate to perform certain skills. Results of statistical tests were considered to be significant when $p \leq .05$.

Responses to open-ended questions were analyzed for recurring comments. This analysis involved reviewing responses regarding the supervisors' and graduates' positions within organizations, as well as responses which reflected employers' future skill requirements.

Characteristics of Graduates and Employers

Respondents were asked five questions which related to characteristics of the graduates whom they employed and to the nature of the organization. In particular, respondents were asked to specify the graduate's job title and length of service. Secondly, they were asked to indicate the nature of the business in which the organization was engaged and to note the number of people whom they employed. Finally, employers were asked to indicate their own job title. These questions were intended to gather background information which might prove helpful in determining relationships of selected variables to skills.

Job Title of Graduates

Respondents were asked in an open-ended question to indicate the job title of the graduate on whom they were basing their responses. Although a variety of answers was obtained to this question, respondents indicated that thirty-three, or 58%, of graduates were employed as salespersons. As is shown in Table 3.1, seven graduates held the position of assistant manager, four were employed as marketing consultants and two as sales managers. Additional responses made by employers show that graduates had been placed in a variety of other positions.

Table 3.1

Frequency of Job Titles of Graduates

Title	Frequency
Salesperson	33
Assistant Manager	7
Marketing Consultant	4
Sales Manager	2
Secretary	2
Marketing Assistant	1
Project Assistant	1
Engineer	1
Store Manager	1
Estimator	1
Promotion Director	1
Payroll Clerk	1
Benefits Coordinator	1
Customer Service	1

Length of Service

Employers were asked to indicate how long the NAIT graduate had been employed with their organization by selecting an answer from among three categories. Table 3.2 shows that thirty-two graduates (or 56%) had been employed for less than one year, while the remaining twenty-five graduates had worked within the organization for between one and three years; none of the graduates had been hired more than three years ago.

Table 3.2

Length of Service of Graduates

Length of Service	Frequency	Percentage
Less than one year	32	56%
From one to three years	25	44%

Type of Organization

Respondents were provided with seven choices which represent sectors of business which may be involved in marketing activity, so that they might indicate the type of business in which their organization was involved. Table 3.3 shows the distribution of responses obtained from employers.

Table 3.3

Type of Organizations Employing Graduates

Nature of Organization	Frequency	Percentage
Merchandising/Retailing	17	29.8%
Industrial Sales, Manufacturing and Distribution	15	26.3
Advertising and/or Public Relations	10	17.5
Service Sector	6	10.5
Non-Profit Sector	2	3.5
Government Sector	0	0.0
Other	7	12.4

Table 3.3 shows that 73.6% of the graduates were employed within three areas of business including merchandising, industrial sales and

manufacturing, and advertising and public relations. Respondents indicated that seventeen graduates were employed in merchandising and retailing, fifteen in industrial sales and manufacturing, and an additional ten worked within the area of advertising and public relations. Although none of the graduates was employed in the government sector, six worked in the service sector and one was employed by a non-profit organization. Respondents indicated that seven graduates were employed in other organizations including four financial service firms and one in each of a hospital, professional sports team and property management firm.

Size of Organization

Employers were asked to select from three categories the response which best indicated the size of the organization within which graduates worked. As Table 3.4 illustrates, twenty graduates were employed by small organizations with fewer than twenty employees. Mid-size firms with between twenty and 100 staff members employed sixteen of the graduates. The remaining twenty-one employers surveyed represented large organizations with more than 100 employees.

Table 3.4

Size of Employing Organization

Number of Employees	Frequency	Percentage
Less than 20	20	35.1%
From 20 to 100	16	28.1
More than 100	21	36.8

Job Title of Supervisors

Employers were asked in an open-ended question to specify the job title of the position which they held. As is shown in Table 3.5, 61% of the individuals who supervise the graduates were employed as managers. Four graduates reported directly to the president of the organization, and another four were supervised by directors. Table 3.5 indicates that supervisors of graduates held a variety of other positions such as assistant manager and sales supervisor.

Table 3.5

Job Titles of Supervisors

Job Title	Frequency	Percentage
Manager	35	61.0%
President	4	7.0
Director	4	7.0
Assistant Manager	3	5.3
Vice President	3	5.3
Sales Supervisor	2	3.6
Owner	2	3.6
Moving Consultant	1	1.8
Production Foreman	1	1.8
Office Administrator	1	1.8
Assistant Director	1	1.8

Summary

Four steps were taken in developing the questionnaire used in collecting data for the study. Items which related to the research questions were generated from similar studies identified during a review of the literature. In addition, the researcher consulted with program administrators and instructional staff in order to establish the content validity of items included in the questionnaire. The questionnaire was pilot tested with twelve employers of Marketing Management graduates who offered their suggestions on the wording of instructions.

The population surveyed consisted of supervisors of students who graduated from the Marketing Management program in 1986, 1987 or 1988. The questionnaire packet was mailed to 101 supervisors of Marketing Management graduates on October 13, 1988. Follow-up letters and additional questionnaires were mailed on November 4 to employers who had not responded; a third mailing was completed on December 9. A total of fifty-seven employers completed the questionnaire.

Descriptive data analysis was carried out on the characteristics of graduates, their supervisors and the employing organizations. More graduates were employed as salespeople than in any other position, and 56% of the graduates were employed for less than one year. Although the supervisors are employed in a variety of jobs, 61% held the position of manager. While six sectors of business were represented in this study, 29.8% of graduates worked within merchandising. Small businesses with fewer than twenty employees made up 36% of the organizations surveyed.

CHAPTER IV

RESULTS OF DATA ANALYSIS

The results of the data analysis which focused on the importance of marketing management skills in ten subject areas and the competence of graduates in the same areas are presented in this chapter. The discussion focuses, first of all, on results which relate to the relative importance of each of the ten skill categories. Secondly, these skill categories are examined with respect to employers' preferences for graduates with general knowledge or specific skills in each category. Thirdly, each skill category is examined independently. A discussion of the ten highest and ten lowest ranked items is then followed by a summary of the future skill training requirements of respondents. Finally, findings are presented regarding contingencies between the size of the organization and the importance of skills, as well as between the competence of graduates and their length of service.

Importance of Skill Categories

Employers were asked to rank in order of importance ten performance categories in which the Marketing Management program attempts to develop skills of students. The categories of skills were promotion, merchandising, marketing research and statistics, accounting, law, business mathematics, economics, communications, problem solving, and work habits and attitudes. This analysis was intended to provide answers to two of the research questions identified in Chapter I which asked:

> To what extent do employers of recent marketing management graduates consider vocational/technical marketing and business skills to be important?

and

To what extent do employers of recent marketing management graduates consider general education skills to be important?

As a first step in the analysis of responses, a frequency count was established for the number of times a skill category was ranked first, second, third, and so on. In Table 4.1, the skill categories are listed in descending order based upon a weighting which was derived by assigning points to the rankings provided by the respondents. Within each skill category, a rank of 1 was assigned ten points, while a ranking of 2 was assigned nine points; this procedure was continued until the number of responses to each rank were multiplied by the appropriate number of points. The sum of these products was used to order the skill categories.

Table 4.1

Distributions of Frequencies of Responses Across Rank Scores for Each of Ten Skill Categories

	Rank Scores									
Skill Category	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Communication	19	22	7	3	0	0	0	0	0	1
Work Habits and Attitude	18	8	12	10	2	1	0	0	0	1
Promotion	10	8	6	8	9	2	5	0	1	2
Problem Solving	2	10	15	9	5	5	2	2	0	2
Merchandising	1	3	8	7	9	5	5	5	0	9
Marketing Research	3	0	2	1	8	17	7	5	5	4
Business Mathematics	0	0	2	7	9	8	6	14	3	3
Economics	0	0	2	3	8	5	7	10	8	8
Accounting	0	1	1	1	2	6	15	6	17	3
Legal	0	0	0	3	0	5	4	7	14	18

As is indicated in Table 4.1, there is some variety in the respondents' answers; however, a fair degree of clustering is also apparent, in the employers' perceptions regarding the relative importance of particular skill categories. Responses show that communication was considered by employers to be the most important skill category for the positions under consideration. Only one respondent ranked communication skills lower than fourth. The next three most important categories include work habits and attitude, promotion, and problem solving. Respondents indicated that the three least important categories for the positions being evaluated are economics, accounting and legal skills. With respect to legal skills, no respondents ranked this category higher than fourth, and only three ranked it higher than sixth.

The overall rankings for the skill categories provides a context for the examination of the importance of individual skills within each category. These are discussed in a later section.

Employer Preferences for General Knowledge Versus Specific Skills

The nature of the knowledge which employers prefer graduates to have in each of the ten skill categories was also explored. Respondents were asked to specify the extent to which they prefer to hire a NAIT graduate with general understanding of a subject category as compared to a graduate with the ability to perform specific tasks within each category. The purpose of this analysis was to provide further insight into the research questions addressed in the previous section which asked:

> To what extent do employers of recent marketing management graduates consider vocational/technical marketing and business skills to be important?
>
> and
>
> To what extent do employers of recent marketing management graduates consider general education skills to be important?

Employers indicated their views on a five-point scale, with 5 referring to a preference for general knowledge and understanding and 1 referring to a preference for specific skills. A mean response was calculated for each category. The results of the analysis are presented in Table 4.2.

Table 4.2

Means of Responses Indicating Employer Preferences for General Knowledge Versus Specific Skills

Skill Category	N	Mean	SD
Work Habits and Attitude	55	3.62	1.73
Economics	39	3.59	1.19
Merchandising	44	3.50	1.44
Problem Solving	54	3.43	1.61
Promotion	50	3.42	1.39
Marketing Research and Statistics	42	3.38	1.33
Communication	53	3.34	1.80
Accounting	39	3.28	1.26
Law	38	3.21	1.45
Business Mathematics	44	3.05	1.55

The means for responses to this question ranged from 3.62 to 3.05. This suggests that employers of Marketing Management graduates do not have a strong preference for either general knowledge or specific skills; instead, they require graduates who have both general understanding of a subject category, and the ability to perform specific skills within the same area.

As is shown by the means in Table 4.2, employers indicated that the subject categories for which they prefer the greatest degree of general understanding include work habits and attitudes, economics and merchandising. Respondents signified further, that specific skills are most important for business mathematics, law and accounting. As indicated by the lower Ns, however, some employers indicated that these three skill categories were not applicable to the job positions which were being considered.

A clearer understanding of these stated preferences may be derived from examining the importance that employers place on various specific skills within a subject category. This results of the analysis of data on this question are presented in the next section.

Importance of Skills and the Competence of Graduates

Data analysis based on Section II of the questionnaire provided information with which to answer the major research question that asks: To what extent is the Marketing Management program at the Northern Alberta Institute of Technology responding to the needs of employers? In addressing this question, answers are also provided for each of three of the sub-questions. To achieve this end, respondents were asked to rate on a five-point scale the importance of items within each of ten skill categories and the competence of graduates to perform the same skills. A t-test for correlated samples was used to determine if there were statistically significant differences between the means.

Promotions Skills

The means of the responses relating to importance of fourteen promotions skills to the job and competence of NAIT graduates are presented in Table 4.3. While the mean responses on the importance of skills varied considerably from a high of 4.62 to a low of 2.24, the variation in means on competence, which range from 3.58 to 2.86, is smaller.

Table 4.3 shows that responses of employers indicate that the five most important promotions skills include the ability to stimulate repeat business, to determine customer needs, to locate prospective buyers, to plan and deliver sales presentations, and to demonstrate product use. Each of these skills, for which the means are all above 4.0, relate to selling, which is a specialized area within promotions. The three skills rated least important by employers, all with means below 3.0, include the ability to write and edit news releases, to develop and prepare advertising copy and to identify and interpret advertising results. The means for the four remaining skills fell into the 3.0 to 3.26 range.

Table 4.3

Comparison of Importance of Promotion Skills with the Competence of Graduates in Performing those Skills

Skill	Importance N	Importance x̄	Competence N	Competence x̄	t value
Stimulate repeat business	47	4.62	43	3.58	5.74*
Determine customer needs	55	4.51	51	3.35	7.11*
Locate prospective buyers	48	4.27	42	3.23	5.35*
Plan and deliver sales presentation	50	4.12	46	3.17	5.00*
Demonstrate product use	40	4.08	37	3.41	2.91*
Plan and implement sales promotions	35	3.26	31	3.06	--
Evaluate effectiveness of promotions	36	3.19	32	2.91	2.15*
Define markets and select media	41	3.07	35	2.86	2.12*
Plan and implement advertising	45	3.00	37	2.95	2.12*
Understand operation of sales force	45	2.98	39	2.74	2.59*
Identify/communicate with publics	44	2.89	36	2.94	--
Identify/interpret advertising results	33	2.85	33	2.85	--
Develop and prepare advertising copy	30	2.60	24	3.04	--
Write and edit news release	21	2.24	14	2.24	--

*significant at .05 level

In relation to the competence of graduates on promotions skills, the means of employer responses ranged from 3.58 to 2.24. Graduates were assessed by employers as being most competent in terms of their ability to stimulate repeat business, to demonstrate product use, and to determine customer needs. Employers judged graduates to be only moderately competent in their ability to interpret advertising results, to define markets and select media, and to write and edit new releases, as is indicated by means of 2.85, 2.86, and 2.86 respectively.

While there is a relatively high degree of consistency in the order of items ranked on importance and competence, there is a difference between the means which is statistically significant at the .05 level for nine items. Without exception, the five skills rated as most important have higher means when rated on importance than when rated on competence. In addition, Table 4.3 reveals that statistically significant differences are also apparent between the ratings for importance and competence for four other skills. Overall, the means on importance are higher than those on competence for ten items.

Merchandising Skills

Respondents rated seven merchandising skills by using the two five-point scales described earlier. Table 4.4 shows that the range of mean responses on importance and competence are both relatively narrow. The lower Ns shown in Table 4.4 suggest that several employers believed that many of the skills in this category were not applicable to the positions under consideration.

The mean responses on importance of the skills ranged from 3.26 to 2.56. Table 4.4 indicates that employers rated the two most important merchandising skills to be the ability to analyze and evaluate the effectiveness of merchandise displays, and to select appropriate suppliers and to monitor supplier relations. The ability to handle merchandise and to conduct a location analysis were rated equally by employers as being the least important merchandising skills, with a mean of 2.56 each. Only 16 people rated each of these skills; the remaining 39 respondents indicated that they were either not applicable to the position, or that they did not know the importance of the skill to the position.

The range of means on competence presented in Table 4.4, indicates a moderate level of competence by graduates who perform merchandising tasks. While graduates are considered by employers to be most competent at implementing inventory control systems and conducting locations analyses, they are deemed to be somewhat less competent at handling merchandise.

Table 4.4

Comparison of Importance of Merchandising Skills with the Competence of Graduates in Performing those Skills

Skill	Importance		Competence		t value
	N	$\bar{x}$	N	$\bar{x}$	
Analyze/evaluate displays	35	3.26	31	3.06	--
Select suppliers/monitor relations	36	3.19	32	2.91	2.15*
Prepare merchandise budgets	22	3.09	17	3.00	--
Implement inventory control system	25	3.00	18	3.50	--
Design a model stock plan	44	2.89	36	2.94	--
Handle merchandise	16	2.56	16	2.56	--
Conduct a location analysis	16	2.56	9	3.44	--

*significant at the .05 level

An examination of the means in Table 4.4 shows that relatively small differences exist between the rating of each skill on importance versus the rating of the same skills on competence. For only one skill is the difference between the means statistically significant. The mean response of employers regarding the importance of the ability to select suppliers and monitor supplier relations is 3.19; a somewhat lower mean response of 2.91 was observed regarding the ability of graduates to perform this skill.

Marketing Research and Statistics Skills

Respondents rated seven marketing research and statistics skills which the Marketing Management program attempts to develop. Table 4.5 shows that the mean responses for this category of skills are all less than 4.0. The broad range of Ns shown in the table suggest that there is considerable difference of opinion among employers regarding the applicability of particular skills to marketing positions.

Table 4.5

Comparison of Importance of Marketing Research and Statistics Skills and the Competence of Graduates in Performing those Skills

Skill	Importance		Competence		t
	N	$\bar{x}$	N	$\bar{x}$	value
Define marketing problems	46	3.50	40	2.93	4.84*
Gather, analyse, interpret data	37	3.35	30	3.10	2.82*
Interpret statistical surveys	29	3.07	23	3.04	--
Develop hypotheses	38	3.00	29	2.86	2.27*
Choose/conduct statistical analysis	19	2.85	12	3.42	--
Prepare formal research reports	26	2.69	19	2.79	--
Understand sampling techniques	20	2.55	15	2.73	--

*significant at the .05 level

Responses of employers suggested that the most important marketing research skill is the ability to define marketing problems and opportunities, with a mean response of 3.50. Employers rated the ability to gather, analyze and interpret data as the second most important skill. A mean response of 2.56

was observed for the ability to understand sampling techniques. This skill was rated by employers as least important within this category.

The mean responses on competence fall in the mid-range of the scale, from 3.42 to 2.73. Only three items had means greater than 3.0; graduates were assessed as being most competent in the ability to conduct statistical analysis, to gather data, and to interpret statistical surveys. The skill for which graduates were judged to be least competent is the ability to understand sampling techniques.

A comparison of the respondents' rating of each skill on importance and on competence shows differences which are statistically significant at the .05 level on the ratings for three skills. These include the ability to define marketing problems and opportunities; to gather, analyze and interpret data; and to develop hypotheses. In each instance, the mean for the importance of the skill is greater than the mean for the competence of the same skill.

Accounting Skills

Table 4.6 presents the means of employers' responses for five accounting skills. The lower Ns shown in the table suggest that many employers did not feel that these skills were applicable to the particular positions held by NAIT graduates. The range of means for this category shows relatively little variance.

Respondents indicated that the ability to understand the effects of costs and pricing decisions on profit, with a mean of 3.65, is the most important accounting skill. The ability to consider the financial implications of adding or dropping product lines received the second highest rating in this category; however, the mean score is a moderate 3.14. Employers indicated that the least important accounting skill, with a mean of 2.46, is the ability to use capital budgeting techniques to make long-term decisions regarding equipment or business acquisitions.

The range of mean responses on the competence of graduates is 3.65 to 2.80. Graduates were evaluated by employers to be most competent on that skill which was assessed as being most important. The ability to understand the effect of costs was observed to have a mean response of 3.65. Within this category, the skill for which graduates were judged to be least competent is the ability to evaluate financial performance.

A comparison of employer responses regarding the importance of accounting skills versus the competence of graduates performing such skills reveals relatively minor differences; this is confirmed by the results of a t-test for which no items were found to be statistically significant.

Table 4.6

Comparison of Importance of Accounting Skills and the Competence of Graduates in Performing those Skills

Skill	Importance		Competence		t value
	N	$\bar{x}$	N	$\bar{x}$	
Understand the effect of costs	37	3.65	37	3.65	--
Consider implications of product lines	21	3.14	15	3.07	--
Interpret financial statements	29	3.03	21	3.19	--
Evaluate financial performance	25	2.56	20	2.80	--
Use capital budgeting techniques	13	2.46	7	2.86	--

Legal Skills

Respondents were asked to evaluate five legal skills. As is shown in Table 4.7, the means responses are relatively low. The broad range in the Ns suggests differences in the perceptions of employers regarding the applicability of legal skills to marketing positions.

Table 4.7 indicates that the range of mean responses on importance is rather broad, from 3.13 to 1.72. The lower values for N suggest that employers tend to place less importance on legal skills than they do on the other categories already discussed. Data analysis shows that the ability to understand the components of a contract is judged by respondents to be the most important legal skill. As indicated in Table 4.7, the ability to understand the jurisdiction of the courts is considered by employers to be least important.

The means on competence fall into a very narrow range, from 3.00 to 2.80. According to employers' responses, graduates were rated highest in terms of their ability to understand landlord and tenant relations. Relatively few differences were found in the competence of graduates for the remaining legal skills. With four means lower than 3.0, it appears that employers have judged graduates to be less competent with respect to legal skills than with other skills, but these skills are also low in importance.

Table 4.7

Comparison of Importance of Legal Skills and the Competence of Graduates in Performing those Skills

Skill	Importance		Competence		t value
	N	$\bar{x}$	N	$\bar{x}$	
Understand ingredients of a contract	32	3.13	24	2.96	--
Understand the judicial process	24	2.42	16	2.88	--
Understand principles of tort law	24	2.33	16	2.81	--
Understand landlord/tenant relations	18	1.94	10	3.00	3.25*
Understand jurisdiction of the courts	18	1.72	10	2.80	3.00*

*significant at the .05 level

A t-test was conducted to determine if there were differences between the mean responses on importance of legal skills and the mean responses on the competence of graduates. Differences between the means for importance and competence were found to be statistically significant for two skills: the ability to understand landlord/tenant relations and the jurisdiction of the courts. In each case, the mean for competence is considerably higher than the mean for importance.

Business Mathematics Skills

Four business mathematics skills were rated by employers. As shown by the Ns in Table 4.8, many employers indicated that three of the four mathematics skills listed in the questionnaire were not applicable to the graduate's position within their firm.

The mean responses on importance, which ranged from 3.68 to 2.00, varied considerably. As is indicated in Table 4.8, the ability to perform a variety of pricing and purchasing calculations is the skill which received the highest rating by employers. The few employers who did rate the remaining three skills indicated that these skills have somewhat limited importance to marketing positions within their firms, as shown by the means which are less than 3.0. The skill rated as being least important to the positions being evaluated is the ability to compute the purchase price of bonds and to perform calculations of interest and payments.

The range of the mean responses on competence, which is from 3.45 to 2.88, varied to a lesser extent. However, only one skill received a competence rating greater than 3.0; graduates were evaluated as being most competent regarding their ability to perform pricing calculations. As shown in Table 4.8, little difference was observed regarding the competence of graduates for the remaining three business mathematics skills.

Table 4.8

Comparison of Importance of Business Mathematics Skills and the Competence of Graduates Performing those Skills

Skill	Importance N	Importance $\bar{x}$	Competence N	Competence $\bar{x}$	t value
Perform pricing calculations	38	3.68	33	3.45	2.10*
Do foreign exchange calculations	15	2.87	13	2.77	--
Evaluate via net present value	14	2.43	11	2.91	--
Perform interest calculations	11	2.00	8	2.88	--

*significant at the .05 level

Differences between the means for importance and the means for competence were found to be statistically significant at the .05 level for only one skill; employers rated the importance of the ability to perform pricing calculations higher than they rated the competence of the graduates in performing the skill. Only eleven employers responded when asked to rate the importance of this skill, while thirty-nine indicated that it was not applicable to the position they were evaluating.

Economics Skills

As shown in Table 4.9, respondents rated six economics skills. While most employers rated the importance of skills, indicating their applicability to the positions being evaluated, many of them had not observed the graduates performing the skills and, consequently, were unable to assess their competence.

Table 4.9

Comparison of Importance of Economics Skills and the Competence of Graduates Performing those Skills

Skill	Importance		Competence		t
	N	$\bar{x}$	N	$\bar{x}$	value
Understand price sensitivity	38	3.68	33	3.06	4.59*
Understand effects of supply/demand	33	3.36	26	3.00	--
Understand pure monopoly, etc.	30	2.90	19	2.79	--
Understand influence of interest rate	27	2.85	16	2.75	--
Understand fiscal/monetary policy	22	2.64	11	2.91	--
Understand measurement of GNP	25	2.40	14	2.64	--

*significant at the .05 level

As shown Table 4.9, the mean responses on importance ranged from 3.68 to 2.40, indicating that employers believe that these skills are of moderate importance relative to other skill categories discussed. The economics skill which was rated most important by respondents is the ability to understand the principles of price sensitivity. They indicated further, that the ability to understand the measurement of GNP is the least important economics skill.

Table 4.9 reveals that the mean responses on the competence of graduates, which range from 3.06 to 2.64, show relatively little variance. Employers judged that graduates have a moderate degree of competence for two skills: the ability to understand price sensitivity and to understand the effects of supply and demand on pricing. Although graduates were evaluated as being least competent in terms of their ability to understand the measurement of GNP, only fourteen employers had the opportunity to observe graduates in this regard.

A comparison of the means on competence with the means on importance for each skill indicates that there is very little difference between the two calculations. Such differences were found to be statistically significant at the .05 level in only one instance; employers rated the importance of the ability to understand the principles of price sensitivity higher than they rated the ability of graduates to perform the same skill.

Communications Skills

Table 4.10 lists in rank order on importance ten communications skills. The high Ns suggest that the large majority of employers surveyed consider these skills, with one exception, to be applicable to marketing positions within their organizations.

The means which relate to the importance of each skill range from 4.76 to 3.33, indicating that employers place considerable importance on communications skills relative to the other skill categories being considered. As is shown in Table 4.10, employers indicated that the ability to listen attentively and to present oneself well to others are equally important. The second most important skill rated by employers is the ability to follow written and spoken instructions. Although employers rated the ability to use business software such as DOS to be the least important communications skill, the mean response is a moderate 3.33. Nine of the ten skills in this category received a mean response greater than 4.0 on a five-point scale.

Table 4.10 shows that the range of mean responses on competence is relatively small, from 3.71 to 3.23, and that graduates were assessed as having moderate to moderately high degrees of competence for the communications skills listed. The three skills on which graduates were judged by employers to be most competent include the ability to follow written and spoken instructions, to present themselves well to others, and to listen attentively. The ability to use software, such as DOS, was identified by employers as the skill at which graduates were least competent. The means on competence for the remaining six communications skills fell within the narrow range of 3.68 to 3.40.

Table 4.10

Comparison of Importance of Communications Skills and the Competence of Graduates in Performing those Skills

Skill	Importance N	Importance $\bar{x}$	Competence N	Competence $\bar{x}$	t value
Listen attentively	55	4.76	51	3.71	6.97*
Present oneself well to others	55	4.76	51	3.73	7.02*
Follow written/spoken instructions	54	4.63	50	3.84	5.92*
Answer questions coherently	55	4.60	51	3.55	7.58*
Engage in oral exchange of ideas	55	4.51	51	3.65	6.84*
Use job related terminology properly	54	4.44	50	3.56	5.79*
Write clearly and effectively	54	4.39	49	3.56	5.80*
Comprehend written communications	55	4.38	50	3.68	4.61*
Conduct effective oral presentations	47	4.06	40	3.40	3.84*
Use software such as DOS	27	3.33	22	3.23	--

*significant at the .05 level

A comparison of the means on importance of communications with the means on competence of graduates for the same skills reveals several things. Firstly, the range of means for competence is smaller than that for the means on importance. Secondly, all of the means on competence are less than 4.0, while only one mean on importance is less than 4.0. Thirdly, and most importantly, t-test results indicate that for nine of the ten skills, the differences between the means on importance and the means on competence are statistically significant at the .05 level; for each skill, the mean on competence is less than the mean on importance.

Problem Solving Skills

Respondents to the questionnaire rated two problem solving skills. As is shown in Table 4.11, the majority of employers rated these skills, indicating their applicability to positions within the organizations surveyed.

The means for each skill are greater than 4.0 when rated on importance, indicating that employers consider this skill category to be very important; means of 4.51 and 4.31 respectively, suggest that employers place almost equal importance on the ability to think independently and to identify problems.

Table 4.11

Comparison of Importance of Problem Solving Skills and the Competence of Graduates in Performing those Skills

Skill	Importance N	Importance $\bar{x}$	Competence N	Competence $\bar{x}$	t value
Think independently	55	4.51	51	3.49	6.70*
Identify problems/propose solutions	54	4.31	50	3.34	6.43*

*significant at the .05 level

When asked to rate the competence of graduates in performing the problem solving skills, employers responded that graduates were moderately competent in this regard, as is indicated by means of 3.49 and 3.34.

A t-test which was conducted to compare the means on importance and the means on competence revealed differences between the two groups of means that is statistically significant. For each problem solving skill, employers rated the importance of the skill higher than they rated the competence of the graduate with respect to the skill.

Work Habits and Attitudes

The final category rated by employers is that of work habits and attitudes. Most employers acknowledged the applicability of the skills in this category by rating them on each of the two five-point scales as is shown in Table 4.12.

A rank order for the importance of each skill, from 4.65 to 4.28, reveals a relatively narrow range of means on the ten skills. Respondents consider employees' work habits and attitudes to be very important, since each skill rated received a mean of greater than 4.0. Table 4.12 shows having a strong sense of ethics was rated by respondents as the most important attitude. While demonstrating intuition and sensitivity was rated by respondents as the least important skill in this category, the mean response of 4.28 for this item indicates that it is still deemed to be of great importance.

A rating of the same skills on the competence of the graduates, shows somewhat different results. Table 4.12 indicates that the range of means on competence is from 4.24 to 3.41, with seven means being less than 4.0. The three skills for which graduates were judged to be most competent, and for which mean responses are greater than 4.0, include the ability to have a strong sense of ethics, to demonstrate willingness to learn, and to assume responsibility for their own actions. Employers perceived that graduates were least competent in terms of their ability to demonstrate intuition and sensitivity.

A t-test which compared the means on importance with the means on competence, indicated that differences between the means are statistically significant in every case. For each of the ten skills, employers rated their importance higher than they rated the competence of the graduate in performing the skill. However, the means on competence for this category do tend to be higher than those observed for other skill categories discussed earlier.

Table 4.12

Comparison of Importance of Work Habits and Attitudes and the Competence of Graduates with those Work Habits and Attitudes

Skill	Importance N	Importance $\bar{x}$	Competence N	Competence $\bar{x}$	t value
Have a strong sense of ethics	55	4.85	49	4.24	4.24*
Demonstrate punctuality	54	4.72	49	3.71	6.37*
Assume responsibility for actions	55	4.71	50	4.04	4.46*
Demonstrate willingness to learn	54	4.65	49	4.08	3.43*
Exhibit dependability	54	4.59	49	3.94	3.91*
Demonstrate flexibility	55	4.55	50	3.70	5.60*
Work productively with others	54	4.54	49	3.82	4.58*
Willingly take directions	55	4.45	50	3.92	3.24*
Follow rules and regulations	55	4.45	50	3.82	3.51*
Demonstrate intuition and sensitivity	54	4.28	49	3.41	5.13*

*significant at the .05 level

Most Important and Least Important Skills

Each of the ten skill categories discussed above was examined in order to identify those items which employers consider to be most important and least important overall. Results of this analysis are relevant to two of the research questions which ask:

> To what extent do employers of recent Marketing Management graduates consider vocational/technical marketing and business skills to be important?

and

> To what extent do employers of recent Marketing Management graduates consider general education skills to be important?

Within this section, the means on importance of the ten highest rated skills and the ten lowest rated skills are compared to the means on competence for the same items. This analysis provides another perspective regarding an additional research question which asks:

> What is the perception of employers regarding the degree to which Marketing Management graduates possess the skills identified?

Most Important Skills

Table 4.13 identifies the ten most important skills across all categories in rank order by mean. The majority of employers rated these items, indicating that in addition to being very important, they were also applicable to most of the positions under consideration.

The means on importance range from 4.85 to 4.55, confirming that employers consider these skills to be very important to the positions held by graduates. Only three skill categories are represented in the top 10 ranked skills shown in Table 4.13; five of the skills identified relate to work habits and attitudes, four relate to communication, and one relates to promotions.

An examination of employers' responses shows that the means on competence range from 4.24 to 3.55. For the ten most important skills identified by employers, only three means on competence are greater than 4.0; respondents indicated that graduates are most competent regarding the ability to have a strong sense of ethics, to demonstrate willingness to learn, and to assume resonsibility for actions. The remaining seven means on competence fell within the range of 3.84 to 3.55.

Table 4.13

Comparison of Ten Highest Ranked Marketing Skills and the Competence Graduates in Performing those Skills

Skill	Importance		Competence		t
	N	$\bar{x}$	N	$\bar{x}$	value
Have a strong sense of ethics	55	4.85	49	4.24	4.24*
Listen attentively	55	4.76	51	3.71	6.97*
Present oneself well to others	55	4.76	51	3.73	7.02*
Demonstrate punctuality	54	4.72	49	3.71	6.37*
Assume responsibility for actions	55	4.71	50	4.04	4.46*
Demonstrate willingness to learn	54	4.65	49	4.08	3.43*
Follow written/spoken instructions	54	4.63	50	3.84	5.92*
Stimulate repeat business	47	4.62	43	3.58	5.74*
Answer questions coherently	55	4.60	51	3.55	7.58*
Demonstrate flexibility	55	4.55	50	3.70	5.60*

*significant at the .05 level

A comparison of the means on importance with the corresponding means on competence shows that statistically significant differences ($p \leq .05$) exist between the two means for each of the ten skills identified. For each item, the mean on importance is greater than the mean on competence. A comparison of the range of means for each rating suggests that, while employers consider each of the skills to be very important to the position under consideration, they perceive that NAIT Marketing Management graduates possess a moderate to reasonably high degree of competence in those skills.

Least Important Skills

Analysis of employers' responses also identified those skills which are thought to be least important to the positions held by graduates. The ten least important skills are listed in rank order by mean in Table 4.14, along with the corresponding means which describe the competence of graduates to perform the skills. The low N's shown in the table indicate that most employers found that these skills were not applicable to the positions under consideration.

Table 4.14

Comparison of the Ten Lowest Ranked Marketing Skills and the Competence of the Graduates in Performing those Skills

Skill	Importance N	Importance $\bar{x}$	Competence N	Competence $\bar{x}$	t value
Understand jurisdiction of courts	18	1.72	10	2.80	3.00*
Understand landlord/tenant relations	18	1.94	10	3.00	3.25*
Perform interest calculations	11	2.00	8	2.88	1.87
Write and edit news releases	21	2.24	14	2.86	--
Understand principles of tort law	24	2.33	16	2.81	--
Understand measurement of GNP	25	2.40	14	2.64	--
Understand judicial process	24	2.42	16	2.88	--
Evaluate via net present value	14	2.43	11	2.91	--
Use capital budgeting techniques	13	2.46	7	2.86	--
Understand sampling techniques	20	2.55	15	2.73	--

*significant at the .05 level

The range of means on importance range from 1.72 to 2.55. Examination of the means reveals that those employers who did rate the skills on importance consider them to be only slightly important, or even, somewhat unimportant. Data analysis showed that the ability to understand the jurisdiction of the courts and to understand landlord and tenant relations were rated as the two least important skills overall, with a means below 2.0. Unlike the most important skills presented in Table 4.13, the ten skills which employers considered to be least important are not limited to two or three skill categories; instead, six categories are represented in Table 4.14 which include promotions, marketing research and statistics, accounting, law, mathematics, and economics. Four of the least important skills listed are derived from the legal skills category.

For the items shown in Table 4.14, the means on competence fell into a narrow range from 3.00 to 2.64, indicating a moderate degree of competence for these skills. Nine of the means were less than 3.0. Graduates were rated highest in terms of their ability to understand landlord and tenant relations, and were found to be almost equally competent for the remaining skills.

A t-test conducted to compare between the means on importance and the means on competence shows differences which are statistically significant ($p \leq .05$) in only two instances; the means on competence are greater than the means on importance for two skills, the ability to understand the jurisdiction of the courts and to understand landlord/tenant relations. A review of the N's for the skills listed in Table 4.14 raises some question regarding the applicability of the skills; as many as 79% of respondents indicated that these skills are not applicable to the positions held by graduates.

Future Skill Training Requirements

In an open-ended question in Section IV of the questionnaire, respondents were asked to identify the three most important skills that their companies will require of NAIT Marketing Management graduates in the next five years. The responses to this question were summarized in order to identify recurring topics. This analysis provides insight into the final research question identified in Chapter I which asks:

What skills do employers think will be important in the future?

A summary of responses is presented in Table 4.15.

Table 4.15

Frequencies of the Most Important Skill Requirements of Employers for the Future

Skill	Frequency
Communication	36
Selling	25
Promotion	18
Work Habits and Attitude	16
Merchandising	9
Computer literacy	8
Problem Solving	4
Marketing Research	4
Other	18

Thirty-six respondents indicated that one of the skills which they consider to be most important in the next five years is that of communications. Twenty-five employers indicated that selling and promotions will have considerable importance within their organizations in the next five years, while sixteen respondents indicated that work habits and attitudes will be among the most important skills in the future. Additional skills mentioned by only a few respondents include merchandising, computer literacy, marketing research and problem solving.

A variety of skills, which are listed as "other" in Table 4.15, were mentioned as having great importance in the future. This category includes such skills as time management, leadership, decision making, recruitment, and business mathematics. "Knowledge of product or service" and "organizational skills" were mentioned several times by respondents.

The information gathered from this question is generally consistent with the findings from Section II of the questionnaire.

Relationships Among Variables

Additional data analysis using t-tests, Chi-square tests, and content analysis provided the researcher with findings which relate to the research questions identified in Chapter I. First, a t-test was computed which compared the means on competence of graduates with less than one year's service to the means on competence of graduates with more than one year's service. Secondly, in an effort to establish whether there was a relationship between the size of an organization and the importance that employers place upon a particular skill, a Chi-square test was conducted.

Length of Service and Competence

Respondents were asked to indicate how long the graduate under consideration had been in their employ. The responses indicated that thirty graduates had been employed for less than one year, while the remaining twenty-five had been employed from one to three years. A t-test was conducted to determine if there were any statistically significant differences between the means on perceived competence for the two groups of graduates.

As is shown in Table 4.16, the differences between the means on competence for twelve of the seventy skills are statistically significant ($p \leq .05$). Six skill categories are represented in this list which include promotions, merchandising, market research and statistics, economics, communications, and problem solving. Three of the skills are marketing research and statistics skills, while three more are communications skills. An additional two items each are economics and promotions skills. Only one merchandising and one work habit and attitude skill were included in the list. No particular pattern is evident in these results.

Table 4.16

Comparison of Competence on Skills of Graduates with More than One Year and Less than One Year of Service

Skill	> One Year N	> One Year $\bar{x}$	< One Year N	< One Year $\bar{x}$	t value
Follow written/spoken instructions	22	2.82	28	2.43	2.36*
Listen attentively	22	2.68	29	2.28	2.03*
Think independently	22	2.59	29	2.14	2.17*
Conduct effective oral presentation	20	2.55	20	1.90	2.93*
Prepare/deliver sales presentation	19	2.47	27	1.85	2.60*
Understand supply/demand	13	2.46	13	1.62	3.29*
Gather, analyze, interpret data	12	2.42	18	1.78	2.67*
Understand/interpret statistical data	13	2.38	10	1.50	3.11*
Define problems and opportunities	17	2.24	23	1.70	2.33*
Understand pure competition, etc.	10	2.20	9	1.44	2.81*
Evaluate special promotions	17	2.18	15	1.60	2.22*
Select suppliers & monitor relations	17	2.18	15	1.60	2.22*

*significant at the .05 level

In every instance, the means on competence are greater for those graduates who have been employed for more than one year when compared to the means on competence for graduates employed for less than one year. The implication is that, for each the skills listed in Table 4.16, competence is associated with length of experience.

Relationship Between Size of Organization and Importance of Skills

Respondents were asked to indicate the size of the organization in which they are employed. Twenty respondents worked in small organizations with fewer than twenty employees; the remaining thirty-seven respondents were employed in organizations with twenty or more staff members. A Chi-square test was computed in order to identify whether there was a contingency between the size of the organization and the importance that employers place on skills developed in the Marketing Management program at NAIT. Significant Chi-square values were observed for only the six items identified in Table 4.17. Cross-tabulations for these six items are presented in Appendix D.

Table 4.17

Results of Chi-square Test of Contingency Between the Size of Organizations and the Rated Importance of Skills

Skill	Frequency	Chi-square
Write and edit news releases	21	7.47*
Conduct a location analysis	16	8.38*
Handle merchandise	16	8.38*
Use capital budgeting techniques	13	5.96*
Understand the judicial process	24	7.89*
Understand the principles of tort law	24	8.79*

*significant at .05 level

For each of the items in Table 4.17, importance of the skill is dependent upon the size of the organization. Some of the skills included the ability to conduct a location analysis and the ability to use capital budgeting techniques. Employers in the smaller organizations (those with fewer than twenty employees) placed greater importance upon each skill than did those in the larger organizations. Perhaps this reflects the nature of small business, which may tend to require that employees have a general understanding of a number of functions within the organization, while larger organizations may employ specialists to perform the same functions.

While a contingency was observed between size and importance for the skills discussed above, no such relationship was evident for the remaining sixty-four skills which respondents evaluated. Based on the results of the Chi-square test, it may be concluded that the importance of a skill generally tends not to be related to the size of the employing organization.

Comments on Program

The final question in Section IV of the questionnaire provided respondents with the opportunity to offer comments regarding the Marketing Management program; twenty-three employers responded to this question. A content analysis of employers' responses yielded five categories which are discussed below.

The overall attitude expressed by respondents seemed to be positive, as reflected in many of their comments. While some the of positive comments are general in nature, others are quite specific. The following quotations illustrate this point:

> I find NAIT graduates to have a more practical knowledge and more realistic job expectations than U of A Marketing grads.
>
> The projects they have completed as well are more in depth and innovative.

Six respondents offered comments which reflect the specific needs of these employers. These comments relate to skills or traits which employers consider to be desirable as indicated in the following comments:

> We look for candidates with proven selling skills as well as a thorough knowledge of these skills and techniques.
>
> A growing number of companies have sophisticated buying groups and sales forces -- our sales people must be prepared to make skillful presentation of products and service to this new breed of customer.
>
> Most important is that candidates have the right attitude towards work and life . . . . (including) a realistic understanding of the working world.

While some respondents provided comments regarding their own particular needs, such as those presented above, many offered specific suggestions on curriculum planning. The following comments are a sample of those provided by employers:

> Emphasis needed on dealing confidently and efficiently with public.
>
> Spend more time on micro economics like "how to read a price book", less on G.N.P.! Time management, territory organization, identifying purchasing power from influence in large organizations would be valuable topics.
>
> May need more career emphasis on sales versus marketing.

Eight employers indicated their satisfaction with the graduates whom they have employed. In addition, they were generous with their praise of the Marketing Management program itself. The following comments are representative of these views:

> We have been pleased with the calibre of your graduates -- they seem to be confident and quite knowledgeable of the basics.
>
> The programs graduates have well-rounded skill backgrounds.
>
> We have been extremely pleased with the Marketing graduates from NAIT. We currently have 3 graduates on our immediate staff of 11.

> I am a strong supporter of NAIT and SAIT. There will always be a demand for your students.

> We will always consider NAIT grads in the future.

While most of the comments were positive or constructive in nature, two negative comments were offered by respondents. One employer indicated that

> Unfortunately the student for which this evaluation was taken was not a competent worker.

Another employer, who indicated general satisfaction with the graduates that had been hired, qualified this view with the following comment:

> Yes, I have hired NAIT grads with success but I have turned away many because they were clueless about the working world.

Overall, the respondents in the study provided a diversity of comments which were generally consistent with the data gathered in previous sections of the questionnaire.

Summary

The skill category thought by employers to be most important is that of communications, while the skill category identified as being least important is law. In addition, respondents in the study had a preference for graduates who have both a general understanding of an area, as well as the ability to perform a variety of specific skills within each category.

The results of data analyses indicate that employers of Marketing Management graduates think that the three most important skills being developed in the program include having a strong sense of ethics, listening attentively, and presenting oneself well to others, each of which may be described as a general skill. Data analysis reveals, further, that the three skills deemed by respondents to be least important to the positions being evaluated include the ability to understand the jurisdiction of the courts, to understand landlord/tenant relations and to perform interest calculations.

Content analysis of future skill training requirements showed that employers believe that communication skills will be most important in the next five years. The next two most important skill categories identified were promotions and selling. The former might be viewed as a more general skill while the latter may be thought of as technical skills.

The results of a t-test indicated that perceived competence seems to be dependent upon experience for twelve of the seventy skills evaluated by employers. There appears to be no relationship between the size of an organization and the importance that employers place on skills.

Content analysis which was completed on respondents' additional comments indicated that, while employers offered a variety of comments regarding the Marketing Management program, their general tone was positive and the comments reflect satisfaction with the program and its graduates.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Included in this chapter is a summary of the follow-up study of the Marketing Management graduates at NAIT. Major conclusions that are based on the findings are presented followed by a discussion of how the findings relate to the literature. Presented last are recommendations for both practice and further research.

Summary

A summary of the research design which guided the study is described in this section. Also presented is a discussion of the findings as they relate to the major research question and to each of the eight sub-problems.

Research Design

The follow-up study of NAIT Marketing Management graduates was descriptive in nature. As such, the researcher adhered to the major principles of descriptive survey methodology.

The survey instrument was developed by following the appropriate steps which are outlined by Borg and Gall (1983). Potential questionnaire items regarding skills developed in the Marketing Management program were generated through a review of the literature as well as consultation with program staff members. Once a list of items had been generated, content validity was established by asking instructional and administrative staff to review the items to ensure their relevance to the program. In developing the questionnaire, which included open- and closed-ended questions, particular consideration was given to the objectives of the study. Closed-ended questions required respondents to either select the appropriate answer from categories, or to rate items on a five-point Likert-type scale. Before the questionnaire was finalized and distributed to the sample, a pilot test was completed with twelve respondents and appropriate changes were implemented.

Data collection procedures for the study included the selection of a sample, the distribution of the questionnaires and the tabulation of results. A sample of 101 individuals had hired students who graduated from the NAIT Marketing Management program in either 1986, 1987 or 1988. The questionnaire and accompanying materials were distributed on October 13, 1988. Follow-up letters were sent on November 4, and again on December 9, to those members of the sample who had not yet responded to the survey. A total of fifty-seven respondents, or 67.1% of the sample, completed the questionnaire by December 22. Fifteen individuals who returned incomplete questionnaires indicated that they had not hired Marketing Management graduates or that the supervisors of such graduates were no longer employed by the organization.

Data analysis was completed using the StatsPlus software package after the responses on coded questionnaires were entered into the NAIT computer. The descriptive statistics generated included frequency distributions, percentages and means. Inferential statistics were computed using t-tests which identified the differences between the means for pairs of variables. Chi-square tests were also computed to explore relationships between particular variables. Results of statistical tests were considered to be significant when $p \leq .05$. Content analysis was carried out on the open-ended questions included in the survey instrument in order to identify recurring themes.

Data analysis was conducted regarding the characteristics of the graduates and employers. The findings revealed that 58% of the graduates were employed as salespersons, and that 56% of the graduates assessed had been employed for less than one year. Seventeen of the respondents indicated that they represented merchandising organizations, and an additional fifteen were employed within industrial sales companies. There was a relatively equal distribution of employers from small, mid-sized and large organizations. Sixty-one percent of the respondents were employed as managers.

Findings

The purpose of this study was to answer one major research question and eight related sub-problems. The major research question asked:

> To what extent is the Marketing Management program at the Northern Alberta Institute of Technology responding to the needs of employers?

The answer to this question lies in an examination of the findings as they relate to the sub-problems. The following summary of the findings is organized around each of these specific questions.

To what extent do employers of recent marketing management graduates consider vocational/technical marketing and business skills to be important? Data from several parts of the questionnaire were helpful in answering this question. First, respondents were asked to rank order, from one to 10 (with 1 being "most important" and 10 being "least important") the importance of seven skills categories, as well as three general education categories. In addition, they were asked to rate on a five-point scale the importance of forty-eight technical skills within seven categories. The categories included promotions, merchandising, marketing research and statistics, accounting, law, business mathematics and economics.

Promotion, which was ranked third in a field of ten categories, was viewed as the most important technical skill category. In contrast, legal skills were ranked the least important category overall. The ranked importance for the remaining five technical skill categories, in descending order, was merchandising, marketing research and statistics, business mathematics, economics and accounting.

Within the category of promotions, the five most important skills were the ability to stimulate repeat business, to determine customer needs, to locate prospective buyers, to plan and deliver sales presentations, and to demonstrate product use. The findings show that the ability to write and edit news releases, to develop and prepare advertising copy and to identify and interpret advertising results were rated as the being least important promotions skills.

Of seven merchandising skills rated by employers, the ability to analyze and evaluate the effectiveness of merchandise displays was indicated to be most important. Two items which were rated equally as being the least important skills in this category are the ability to handle merchandise and to conduct a location analysis. Overall, these items were considered to be moderately important.

The results of this analysis indicate that employers place more importance on the ability to define marketing problems than on any other marketing research skill. They consider the ability to understand sampling techniques to be less important than the other items listed for this category.

The five accounting skills listed in the questionnaire were judged by employers to be of moderate importance. Employers indicated that it is most important for graduates to understand the effect of costs on pricing, and least important that they be able to use capital budgeting techniques.

With respect to legal skills, employers place a moderate degree of importance on the ability of graduates to understand the ingredients of a contract. However, they consider the ability of graduates to understand the jurisdiction of the courts to be far less important.

Employer responses indicated that there is a sizable variance in the importance that is placed on particular business mathematics skills. Considerably more importance is placed upon the ability of graduates to perform pricing calculations, while much less importance is placed upon their ability to perform interest calculations.

On employers' ratings of economics skills, the results indicate that the most important skill is the ability to understand price sensitivity, which was rated as being moderately important. The ability to understand the measurement of GNP was rated by respondents as being only somewhat important.

When examining the findings regarding the importance of skills across all categories, only one technical skill was included in the ten highest rated items; the ability to stimulate repeat business, a promotions skill, was rated as the eighth most important skill overall. Each of the ten lowest rated items across all skill categories is a technical skill. The two least important skills overall, which include the ability to understand the jurisdiction of the courts and to understand landlord/tenant relations, are legal skills. These skills were rated by employers as being "somewhat unimportant."

To what extent do employers of recent Marketing Management graduates consider general education skills to be important? Those questionnaire items which were helpful in acquiring answers to the previous research question, are also relevant for this question. Respondents were asked to rank order, from one to 10 (with 1 being "most important" and 10 being "least important") the importance of three general education categories, along with the seven technical skill categories discussed earlier. In addition, they were asked to rate on the five-point scale the importance of twenty-two general skills within the three categories. The categories included communications, problem solving and work habits and attitudes.

Employers indicated that the most important general education skill category is communications, followed closely by work habits and attitudes, and then problem solving. When asked to rank the importance of these general education categories along with the seven technical skill categories, employers ranked the former categories first, second and fourth in a field of ten.

Nine of the ten items within the category of communications were rated by employers as being very important. Within this group, the ability to listen attentively and to present oneself well to others were equally rated as the most important skills. Although the ability to use software such as DOS was rated the least important skill, employers indicated that it is of moderate importance.

Employers rated the importance of only two problem solving skills and indicated that each skill was very important. The ability to think independently was rated as being slightly more important than the ability to identify problems and propose solutions.

The findings show that respondents considered all ten items in the category of work habits and attitudes to be of great importance. Having a strong sense of ethics was identified as the most important skill within this category. While the ability to demonstrate intuition and sensitivity was rated the least important skill in this group, it was, nevertheless, considered by employers to be very important.

Responses indicated that, of the ten most important skills across all categories, nine of them are general education skills; five of these items relate to the category of work habits and attitudes and an additional four items are communications skills. The two most important skills across all categories are the ability to have a strong sense of ethics, which is included in the category of work habits and attitudes, and to listen attentively, which is a communications skill. No general education skills were included in the ten items rated by employers as least important overall.

What is the perception of employers regarding the degree to which Marketing Management graduates possess the skills identified? For each of the skill categories on which respondents rated the importance of items, a rating on the competence of graduates was also requested. In particular, respondents rated on a five-point scale (with 5 being "highly competent" and 1 being "limited competence") the competence of graduates with respect to forty-eight technical skills within seven categories, and an additional twenty-two general education skills within three categories. The technical skill categories included promotions, merchandising, marketing research and statistics, accounting, law, business mathematics and economics; and the general education skills categories included communications, problem solving and work habits and attitudes.

The three promotions skills for which employers considered graduates to be most competent were the ability to stimulate repeat business, to demonstrate product use and to determine customer needs. Employers rated graduates as moderately competent on these items. Graduates had limited competence with respect to their ability to write and edit new releases.

Graduates were judged by employers to possess moderate to moderately high degrees of competence in all of the merchandising skills on which they were rated. However, they were rated as being most competent in terms of their ability to implement an inventory control system and, secondly, to conduct a location analysis. Employers indicated that, although graduates were least competent in their ability to handle merchandise, they were, nevertheless, moderately competent.

For six of the seven marketing research and statistics skills on which graduates were rated, employers indicated that the graduates were moderately competent. On the seventh skill, the ability to conduct statistical analysis, graduates were rated as having a moderately high degree of competence. In addition, the competence of graduates was relatively equal in terms of the ability to understand sampling techniques, to prepare formal research reports and to develop hypotheses; graduates were rated lowest for these three items.

While employers indicated that graduates were moderately competent on four of the accounting skills on which they were rated, the competence of the graduates was judged highest on the ability to understand the effect of costs on pricing. The ability to evaluate financial performance was rated by employers as the skill on which graduates were least competent.

The competence of graduates on five legal skills was rated by employers as being relatively equal. Although graduates were moderately competent on these skills, they were rated as being most competent regarding the ability to understand landlord and tenant relations. Employers rated them as being only slightly less competent in their ability to understand the jurisdiction of the courts.

Employers indicated that graduates possess a moderately high level of competence for only one of the four business mathematics skills on which they were rated; this skill is the ability to perform pricing calculations. Otherwise, graduates were moderately competent on business mathematics skills.

The results show that graduates possess moderate degrees of competence on each of the economics skills on which they were rated. While they were judged to be somewhat more competent in their ability to understand price sensitivity and the effects of supply and demand, employers indicated that graduates were slightly less competent in their understanding of the measurement of GNP.

Graduates were assessed by employers as having moderate to moderately high degrees of competence in the ten communication skills on which they were rated. The three skills on which they were judged to have moderately high levels of competence include the ability to follow written and spoken instructions, to present oneself well to others and to listen attentively. Employers indicated that the communications skill for which the graduates demonstrated the least competence is the ability to use software.

Employers rated the competence of graduates for only two problem solving skills and found them to possess moderately high levels of competence for both skills.

The final category for which employers rated the competence of graduates is that of work habits and attitudes. The findings show that graduates were rated as having moderately high degrees of competence for seven of these skills; for the remaining three skills, they were judged to be moderately competent. While employers rated graduates highest on having a strong sense of ethics, they indicated that graduates were least competent in their ability to demonstrate intuition and sensitivity.

To what extent are there differences between the importance that employers place on particular skills and the perceived competence of Marketing Management graduates in performing these skills? For each of the seventy items included in the questionnaire, differences between the means on importance and the means on competence were calculated using a t-test for non-independent samples; differences were considered to be statistically significant when $p \leq .05$.

For nine of the ten skill categories where statistically significant differences were identified, the means on importance were higher than the means on competence; an exception to this was two legal skills for which the means on competence were greater than the means on importance. Overall, statistically significant differences were observed for thirty-eight of the seventy skills on which employers rated importance and competence.

Most of the skills on which there were statistically significant differences between the means on importance and on competence were within three skill categories. The greatest number of significant t values was identified within the category of work habits and attitudes for which there were differences for all ten skills rated by employers. Within the category of promotions, there were statistically significant differences between the means on perceived competence and on importance for nine out of fourteen items. These included differences between the means for the five most important promotions skills: the ability to stimulate repeat business, to determine customer needs, to locate prospective buyers, to deliver sales presentations, and to demonstrate product use. In addition, differences which are statistically significant were identified for nine of the ten communications skills listed in the questionnaire; the only item for which the difference between the means was not significant was the ability to use software such as DOS.

Statistically significant values for t were obtained for items within six additional skill categories. Differences between the means on importance and competence were observed for three out of seven marketing research and statistics skills, two of which were rated by employers to be the most important skills within the category. Both of the problem solving skills rated by employers had statistically significant differences between the means. In addition, the t-value was statistically significant for two legal skills for which the means on competence were greater than the means on importance. There was a statistically significant difference between the means on importance and competence for only one skill each within the categories of economics, merchandising and business mathematics.

Although there were differences between the means on importance and perceived competence for some skills within the category of accounting, the t-test conducted indicated that none of the differences was statistically significant.

What skills do employers think will be important in the future? When asked to indicate three of the most important skills to be required of NAIT Marketing Management graduates in the future, more than 60% of respondents mentioned communication skills and more than two-fifths of employers identified sales skills. Almost one-third mentioned promotion skills. Other skills mentioned by a few employers as being important for the future include merchandising, computer literacy, marketing research and business mathematics skills.

To what extent does the importance which employers place on particular skills depend on the size of the organization within which they work? A Chi-square test was conducted in order to determine whether a contingency exists between the importance that employers place on skills and the size of the organization.

The results indicated that the importance of a skill tends not to be related to the size of the organization. A contingency was observed for only six of the seventy skills which were rated by employers, all of which were technical skills such as the ability to write and edit news releases. For each item, employers in the smaller organizations placed greater importance upon the skill than did those in the larger organizations.

To what extent are there differences in perceived competence between Marketing Management graduates who have been employed for less than one year and those graduates who have been employed for one year or longer? A t-test was conducted to identify differences which were statistically significant ($p \leq .05$) between the means on the perceived competence of graduates who were employed for less than one year and those who were employed for a longer period of time.

Differences which are statistically significant were found for twelve of the seventy skills rated by employers including promotions, merchandising, marketing research and statistics, economics, communications, and problem solving skills. In each case, the means on competence were higher for those graduates who had been employed for more than one year when compared to the means on competence for graduates employed for less than one year.

To what extent do employers prefer to hire Marketing Management graduates with general knowledge versus graduates with the ability to perform specific skills? Respondents indicated on a five-point scale (with 5 referring to "general knowledge" and 1 referring to "specific skills") their preference for graduates with general knowledge or specific skills for ten skill categories.

The findings indicate that, although employers do not have a strong preference for either general understanding or specific skills for each skill category, they tend to prefer that graduates have general understanding of work habits and that they possess more specific skills in the area of business mathematics. Overall, the mean responses suggest that employers require graduates who have both general understanding of a subject as well as specific skills within that subject.

To what extent is the Marketing Management program at the Northern Alberta Institute of Technology responding to the needs of employers? The answers to the sub-problems which were discussed earlier offer insight to this major research question. In addition, the general comments provided in the questionnaire by twenty-three of the respondents are also revealing. The overall attitude expressed by the respondents was positive. Employers indicated their satisfaction with the graduates whom they employ and were generous with their praise of the Marketing Management program. They also offered comments regarding the particular needs of their organization by identifying the importance of such skills as the ability to sell; other respondents offered suggestions regarding curriculum planning. Only one respondent indicated that the graduate hired by the organization was deemed to be incompetent.

Conclusions

Four main conclusions may be drawn from the findings of this follow-up study of NAIT Marketing Management graduates. Each conclusion relates, generally, to the research questions which guided the study.

Importance of Technical and General Education Skills

While employers place varying degrees of importance on the seventy skills which they rated, they tend to consider the large majority of these skills to be at least of moderate importance for positions within their organizations. In addition, they consider some of the skills to be of moderately high importance, and a few skills to be very important.

Most of the skills which employers consider to be very important fall within three categories. The items within each of these categories -- communications, problem solving and work habits and attitudes -- are general education skills. Employers tend to consider the skills within these categories to be more important than the skills in any of the technical skill categories which they rated. However, some technical promotions skills are also considered by employers to be very important.

Although employers place more importance on the general education skills that they rated, they also consider the majority of the technical skills to have moderate importance. An exception, however, might be the category of legal skills, which most employers tend to consider as having limited importance within their organizations.

Relevance of Skills

The skills which employers rated on importance are those which are developed in the Marketing Management program. On this basis, and in conjunction with the levels of importance which employers place on these skills, it may be concluded that the focus of the Marketing Management program is relevant, for the most part, to the needs of employers. On this point, however, caution should be taken. While those employers who rated particular skills in the questionnaire considered most of them to be at least moderately important, there are other employers who indicated that some skills were not applicable for the positions that they were assessing. It may be concluded, then, that some of the skills developed in the Marketing

Management program may have relevance for only particular employers.

Differences Between Importance and Competence

For more than 50% of the items, there were differences between the level of importance which employers place on certain skills and the degree to which they perceive graduates to be competent in those skills. For thirty-six out of thirty-eight items where the t-value was statistically significant, the means on importance were greater than the means on competence. This observation should be neither surprising nor alarming. That employers rated the importance of particular skills higher than they rated the competence of the graduates with respect to the same skills reflects the difference that one might expect to find between the ideal and the actual. In such ratings it is not unusual for the actual to fall short of the ideal.

While employers tended to rate the competence of graduates lower than they rated the importance of skills, the graduates were at least moderately competent in performing most of the skills on which they were rated. It is perhaps also relevant, at this point, to consider the length of service of the graduates who were assessed by employers; 56% of graduates were employed for less than one year and the remainder were employed from one to three years.

Given these two factors, that the graduates have been employed for relatively short periods of time, and that the ideal tends to be rated higher than the actual, they have, for the most part, achieved acceptable levels of competence in their jobs.

Employer Satisfaction

While employers surveyed ~~were not~~ specifically asked to what extent they were satisfied with the graduates whom they employ, a level of satisfaction may be inferred from the findings of this study. Responses regarding the importance of particular skills and the competence of graduates on the same skills, as well as employers' general comments are informative in this regard.

The findings suggest that the employers surveyed for this study are generally satisfied with the graduates whom they employ and with the content and focus of the Marketing Management program and NAIT. As indicated above, employers consider most of the skills which are developed in the program to be at least moderately important to the positions which they assessed. In addition, they judged that the graduates possessed moderate to moderately high levels of competence in those skills. The comments which employers provided tend to reflect their general satisfaction with the graduates as well as with the program. For instance, seven respondents had either implied, or stated explicitly, that they had had positive experiences with other graduates employed in their organizations, besides the individual whom they assessed for this study.

On this basis, it may be concluded that the Marketing Management program at NAIT is adequately responding to the needs of employers.

Discussion

There appears to be consistency between the findings of this study and some of the literature reviewed in Chapter II. Results indicate that employers of NAIT Marketing Management graduates tend to place more importance upon general education skills than they do on technical skills. In particular, respondents indicated that the categories of communications as well as work habits and attitudes are the two most important groups of skills of the ten which they rated. Some studies in the literature support this view, to the extent that employers have been found to place considerable importance on these areas (Alford, 1986; Crohn, 1983; Davis, 1985; and Martin & Tolson, 1985). In addition, the findings of this study concur with those of the study conducted by Crohn (1983) in terms of the importance of problem solving skills. Crohn (1983) found that "many employers . . . call for the development of higher level conceptual skills, including reasoning, analyzing, making inferences and problem solving" (p. 3).

The relative importance which employers of Marketing Management graduates place on general education and technical skills is supported by employers in a study conducted by Knold (1986) who concluded that "without employability skills, [including positive work habits, English language comprehension, basic math skills, and problem solving skills] having a specific technical or vocational skill will be of minimal value within the work place" (p. 26).

Some agreement also exists regarding the most important skills identified by employers in this study and those identified by employers in other studies. For example, the skill on which employers of Marketing Management graduates place the most importance is having a strong sense of ethics. Martin and Tolson (1985) found that employers in Virginia expressed an increasing demand for employees who are dependable and honest (p. 135). In addition, respondents in a study conducted by Alford (1986) indicated that the single most important competency required for success in business is the ability to follow written and oral instructions. Employers in this study rated this item as the seventh most important skill overall.

In general, the views expressed by the respondents in this study are consistent with some of the findings of other studies discussed in the literature.

Recommendations

The findings of this study, and the conclusions derived from them, lead to a number of recommendations. Included in this section are recommendations for practise within the Marketing Management program and for further research.

Recommendations for Practise

Recommendations for practise are those which have particular relevance to program administrators in the Marketing Management program at NAIT. Four such recommendations are presented below.

Emphasis on General Education Skills. Program planners should ensure that the emphasis placed upon general education skills -- such as communication, problem solving, and work habits and attitudes -- is maintained within the Marketing Management program. This may be achieved through individual courses within which communication skills, for instance, are developed in students. However, the general education skills which respondents rated as being so important are those which can, and should, be integrated into and emphasized within each course that students take within the program. Accordingly, the instruments used for evaluating students at NAIT might be designed in a way that is compatible with this objective. In addition, program administrators might consider communicating to instructional staff a vision, or philosophy, regarding the program which would encourage an emphasis on the general education skills.

Regardless of the methods used to accomplish the objective, administrators in the Marketing Management program should strive to ensure that an over-emphasis is not placed on technical skills at the expense of general education skills.

Emphasis on Promotions. Due to the importance that employers place on promotions skills, and given that most of the employers surveyed consider these skills to be relevant within their organizations, administrators in the Marketing Management program should ensure than the emphasis on these skills is maintained.

Of the seven technical skill categories which employers rated, promotions was clearly identified as the most important category. This is, perhaps, related to the fact that 58.9% of the graduates who were assessed by employers were employed in sales positions for which promotions skills would be particularly relevant. Since some skills within this category were judged by employers to be more important than others, it would be particularly appropriate to maintain the emphasis placed upon those skills which were rated most important.

General Knowledge Versus Specific Skills. Employers surveyed showed no strong preference for graduates in terms of general knowledge or specific skills. There were, however, some categories for which employers placed greater emphasis upon specific skills, such as in business mathematics. For other categories, including economics, employers prefer that graduates have a general understanding of the subject. Consequently, it is important that Marketing Management program planners strike a balance between the emphasis which is placed upon theoretical concepts in each course and the practical, "hands on" skills which are developed. This may require that each course, or subject category, be examined by relevant instructional staff in order to establish the most appropriate blend of general and technical knowledge or skills.

Establish a Data Base. Accessing the names of organizations that have hired Marketing Management graduates in recent years was particularly difficult due to the lack of an organized data base. It is imperative that a data base be established so that, when administrators within the Marketing Management program conduct further follow-up studies or program evaluations, a frame may be developed in a more efficient manner.

Recommendations for Further Research

While this follow-up study has been useful in assessing the extent to which the Marketing Management program is meeting the needs of employers, the information acquired is not complete in this regard. Rather, assessments of this nature may be thought of as an ongoing process. Consequently, a number of recommendations for further research can be identified.

Evaluation of Individual Courses. The need to limit the length of the survey instrument used and to focus the study on the entire program, placed limitations on the amount and nature of information collected on individual courses. In-depth evaluations of each course would be valuable to program administrators and instructional staff alike because they would generate more detailed information relevant for curriculum planning.

If studies of this nature are conducted, program planners might consider developing a more complete list of relevant skills for each course. In addition, respondents could be asked to identify skills which have been omitted from the course and which are relevant to marketing positions. Evaluations conducted for individual courses might also be useful for determining to what extent each course "fits" with, and is integrated into, the entire program.

Due to the findings regarding the limited importance which employers place upon legal skills developed in the program, the course within which these skills are developed might be the first for which an evaluation study is conducted.

Survey Non-Employing Organizations. This study has been helpful in determining the perceptions of employers of recent NAIT Marketing Management graduates regarding their competence as well as the importance of skills developed within the program. However, there exists a gap in the knowledge about how representatives of organizations who have not hired Marketing Management graduates feel about the focus of the program and the content of its courses. It may be gratifying to know that employers are generally satisfied with the competence of recent graduates whom they have hired. However, program administrators should be equally concerned about the needs of those organizations within the community which require individuals with marketing expertise but which have not had the opportunity to express their views through this study.

A study involving representatives of non-employing organizations might focus on acquiring perceptions of these individuals regarding the importance of skills developed in the Marketing Management program. In addition, the program administrators might solicit the opinions of these employers regarding other skills which they consider to be relevant to marketing positions within their organizations, and which should be included in the curriculum.

Investigate the Applicability of Skills. The findings in this study show that the employers who rated seventy items on importance indicated that most of the skills are at least of moderate importance. However, program administrators should note that many employers indicated the skill was not applicable to positions within the organization.

Administrators might consider conducting a study which would allow them to examine more closely the applicability of skills developed in the Marketing Management program. This might entail soliciting more in-depth comments from employers regarding the reasons for their assessment. In addition, it may be useful to determine whether there is a correlation between the nature of the organization and the respondents' opinion regarding the applicability of certain skills.

Epilogue

Since this study was undertaken, some changes have occurred in the organizational structure at NAIT. The Business cluster of programs no longer functions as part of the unit which was known as the Business Department. Instead, these programs have become part of the newly created Business and Health Sciences Division. The Marketing Management program, which was the focus of this study, has seen the following changes: the first year courses operate as a separate program referred to as Business Administration - Year 1. The second year courses now operate as a distinct program; for administrative purposes, these courses, as well as the second year courses from the business program previously known as Management, are now under the jurisdiction of one Program Head who is responsible for the Management and Marketing programs. The organizational changes provided a further basis for recommending additional follow-up studies of graduates of NAIT programs.

Perhaps the results of this study will help to motivate others to engage in such research.

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APPENDIX A

QUESTIONNAIRE

NORTHERN ALBERTA INSTITUTE OF TECHNOLOGY

MARKETING MANAGEMENT QUESTIONNAIRE

If your company has hired more than one Marketing Management graduate in the last three years, **please respond to this questionnaire in terms of the graduate hired most recently.**

Once you have completed this questionnaire, please mail it **before October 28, 1988** in the self-addressed and stamped envelop which has been provided for you.

When you mail the questionnaire, **please mail separately** the self-addressed and stamped postcard.

MARKETING MANAGEMENT QUESTIONNAIRE

SECTION I: GENERAL INFORMATION

A. Please indicate the graduate's job title while employed with your organization: ____________________

B. Please indicate below approximately how long the NAIT graduate whom you will be evaluating has been (was) employed with your firm:

1. less than one year ____
2. from one to three years ____
3. more than three years ____

C. Please indicate your job title in the organization: ____________________

D. Please indicate below the one item that best describes the nature of the business in which your organization is engaged:

1. Advertising and/or Public Relations ____
2. Merchandising/Retailing ____
3. Industrial Sales, Manufacturing and Distribution ____
4. Service Sector ____
5. Non-Profit Sector ____
6. Government Sector ____
7. If other, please describe ____________________

E. Please indicate below how many people your organization employs:

1. less than 20 ____
2. from 20 to 100 ____
3. more than 100 ____

SECTION II: KNOWLEDGE, SKILLS AND COMPETENCIES

Beginning on page 2 is a list of skills, competencies, and knowledge items related to the Marketing Management Program. These items will vary in importance according to the nature of the position occupied by the NAIT graduate. Please indicate the importance of each item by answering the following questions.

Question One

In your opinion, how important is this particular skill, knowledge, or competency to the position for which you hired a NAIT Marketing Management graduate?

Please circle one number

Extremely Important				Not Important	Not Applicable
5	4	3	2	1	0

Question Two

How competent is (was) the NAIT Marketing Management graduate, employed by your firm, in applying this knowledge or skill in your workplace?

Please circle one number

Highly Competent				Limited Competence	Don't Know/ Not Applicable
5	4	3	2	1	0

MARKETING MANAGEMENT KNOWLEDGE, SKILLS AND COMPETENCIES	For each item, circle the appropriate number			
	How important is this particular skill, knowledge, or competency to the position?		How competent is the NAIT graduate in applying this knowledge/skill in your workplace?	
	Extremely ____ Not Important Important	N/A	Highly ____ Limited Competent Competence	Don't Know N/A
1. PROMOTION				
1.1 Locate prospective buyers and open the sales contact	5 4 3 2 1	0	5 4 3 2 1	0
1.2 Determine customer needs and wants, and identify solutions to their problems	5 4 3 2 1	0	5 4 3 2 1	0
1.3 Plan, prepare and deliver an effective sales presentation	5 4 3 2 1	0	5 4 3 2 1	0
1.4 Demonstrate product use	5 4 3 2 1	0	5 4 3 2 1	0
1.5 Stimulate repeat business by managing after sales service	5 4 3 2 1	0	5 4 3 2 1	0
1.6 Understand the operation of sales force including budgeting, organization and manpower development	5 4 3 2 1	0	5 4 3 2 1	0
1.7 Plan, prepare and implement an advertising/promotional plan	5 4 3 2 1	0	5 4 3 2 1	0
1.8 Define relevant target markets and select appropriate media to reach target markets	5 4 3 2 1	0	5 4 3 2 1	0
1.9 Develop and prepare advertising copy for various media	5 4 3 2 1	0	5 4 3 2 1	0
1.10 Evaluate and interpret the results of advertising	5 4 3 2 1	0	5 4 3 2 1	0
1.11 Write and edit news releases and feature stories	5 4 3 2 1	0	5 4 3 2 1	0
1.12 Identify the relevant publics of an organization and communicate effectively with them	5 4 3 2 1	0	5 4 3 2 1	0
1.13 Plan, schedule, budget and implement special promotions and events	5 4 3 2 1	0	5 4 3 2 1	0
1.14 Evaluate the effectiveness of special promotions and events	5 4 3 2 1	0	5 4 3 2 1	0
2. MERCHANDISING				
2.1 Conduct a location analysis for a prospective retail business	5 4 3 2 1	0	5 4 3 2 1	0
2.2 Prepare merchandise budgets indicating markups, turnovers, gross margins	5 4 3 2 1	0	5 4 3 2 1	0
2.3 Design a detailed model stock for a retail store indicating variety, assortment and depth of merchandise	5 4 3 2 1	0	5 4 3 2 1	0
2.4 Analyze and evaluate the effectiveness of merchandise displays	5 4 3 2 1	0	5 4 3 2 1	0
2.5 Select appropriate suppliers and monitor and evaluate supplier relations	5 4 3 2 1	0	5 4 3 2 1	0

MARKETING MANAGEMENT KNOWLEDGE, SKILLS AND COMPETENCIES	For each item, circle the appropriate number	
	How important is this particular skill, knowledge, or competency to the position?	How competent is the NAIT graduate in applying this knowledge/skill in your workplace?
	Extremely Important ____ Not Important N/A	Highly Competent ____ Limited Competence Don't Know N/A
2. MERCHANDISING		
2.6 Handle merchandise including processing, pricing, tagging, and stocking incoming merchandise	5 4 3 2 1 0	5 4 3 2 1 0
2.7 Establish and implement an inventory control system involving the activities associated with book and physical inventories	5 4 3 2 1 0	5 4 3 2 1 0
3. MARKETING RESEARCH AND STATISTICS		
3.1 Define marketing problems and opportunities	5 4 3 2 1 0	5 4 3 2 1 0
3.2 Develop hypotheses related to marketing problems and opportunities	5 4 3 2 1 0	5 4 3 2 1 0
3.3 Gather, analyze and interpret data	5 4 3 2 1 0	5 4 3 2 1 0
3.4 Prepare formal research reports including descriptions of a set of data using either charts or graphs	5 4 3 2 1 0	5 4 3 2 1 0
3.5 Understand the difference between probability and nonprobability samples and select appropriate sample	5 4 3 2 1 0	5 4 3 2 1 0
3.6 Choose and carry out the appropriate statistical analysis using statistical software	5 4 3 2 1 0	5 4 3 2 1 0
3.7 Understand and interpret statistical surveys properly	5 4 3 2 1 0	5 4 3 2 1 0
4. ACCOUNTING		
4.1 Prepare, read, and interpret financial statements	5 4 3 2 1 0	5 4 3 2 1 0
4.2 Understand the effect of costs and pricing decisions on profit	5 4 3 2 1 0	5 4 3 2 1 0
4.3 Evaluate business performance using various accounting measures	5 4 3 2 1 0	5 4 3 2 1 0
4.4 Consider the financial implications of adding or dropping product lines	5 4 3 2 1 0	5 4 3 2 1 0
4.5 Use capital budgeting techniques to make long-term decisions regarding equipment or business acquisitions	5 4 3 2 1 0	5 4 3 2 1 0

MARKETING MANAGEMENT KNOWLEDGE, SKILLS AND COMPETENCIES	For each item, circle the appropriate number	
	How important is this particular skill, knowledge, or competency to the position?	How competent is the NAIT graduate in applying this knowledge/skill in your workplace?
	Extremely____Not N/A Important Important -	Highly____Limited Don't Know Competent Competence N/A
5. LEGAL		
5.1 Understand the judicial process regarding civil matters	5 4 3 2 1 0	5 4 3 2 1 0
5.2 Understand the organization and jurisdiction of the courts	5 4 3 2 1 0	5 4 3 2 1 0
5.3 Understand the basic principles regarding tort law	5 4 3 2 1 0	5 4 3 2 1 0
5.4 Understand the ingredients of a valid contract	5 4 3 2 1 0	5 4 3 2 1 0
5.5 Understand the basic rules concerning landlord and tenant relations and land mortgages	5 4 3 2 1 0	5 4 3 2 1 0
6. BUSINESS MATHEMATICS		
6.1 Perform a variety of pricing and purchasing calculations	5 4 3 2 1 0	5 4 3 2 1 0
6.2 Compute the purchase price of bonds and perform calculations of interest and payment on long term loans and the bond market	5 4 3 2 1 0	5 4 3 2 1 0
6.3 Evaluate projects through net present value techniques	5 4 3 2 1 0	5 4 3 2 1 0
6.4 Perform foreign exchange calculations	5 4 3 2 1 0	5 4 3 2 1 0
7. ECONOMICS		
7.1 Understand how supply, demand, and price influence production	5 4 3 2 1 0	5 4 3 2 1 0
7.2 Understand the principles of price sensitivity	5 4 3 2 1 0	5 4 3 2 1 0
7.3 Understand price and output determination under pure competition, monopoly, monopolistic competition, and oligopoly	5 4 3 2 1 0	5 4 3 2 1 0
7.4 Understand the influence of unemployment rates, inflation rates and interest rates on the health of the economy	5 4 3 2 1 0	5 4 3 2 1 0
7.5 Understand the functioning of fiscal and monetary policy	5 4 3 2 1 0	5 4 3 2 1 0
7.6 Understand how to measure the level of economic activity (GNP)	5 4 3 2 1 0	5 4 3 2 1 0

MARKETING MANAGEMENT KNOWLEDGE, SKILLS AND COMPETENCIES	For each item, circle the appropriate number	
	How important is this particular skill, knowledge, or competency to the position?	How competent is the NAIT graduate in applying this knowledge/skill in your workplace?
	Extremely Important ____ Not Important N/A	Highly Competent ____ Limited Competence Don't Know N/A
8. COMMUNICATIONS		
8.1 Read and comprehend written communications	5 4 3 2 1 0	5 4 3 2 1 0
8.2 Follow written and spoken instructions	5 4 3 2 1 0	5 4 3 2 1 0
8.3 Write clearly and effectively using proper grammar	5 4 3 2 1 0	5 4 3 2 1 0
8.4 Engage constructively and critically in the oral exchange of ideas	5 4 3 2 1 0	5 4 3 2 1 0
8.5 Answer questions coherently and concisely	5 4 3 2 1 0	5 4 3 2 1 0
8.6 Conduct an effective oral presentation to a group	5 4 3 2 1 0	5 4 3 2 1 0
8.7 Present oneself to others in a way that reflects well on the organization	5 4 3 2 1 0	5 4 3 2 1 0
8.8 Use job related terminology appropriately	5 4 3 2 1 0	5 4 3 2 1 0
8.9 Listen attentively	5 4 3 2 1 0	5 4 3 2 1 0
8.10 Use applications of business software including DOS, Lotus 1-2-3, and dBase III	5 4 3 2 1 0	5 4 3 2 1 0
9. PROBLEM SOLVING		
9.1 Identify problems and propose and evaluate ways to solve them	5 4 3 2 1 0	5 4 3 2 1 0
9.2 Think independently	5 4 3 2 1 0	5 4 3 2 1 0
10. WORK HABITS AND ATTITUDES		
10.1 Demonstrate intuition and sensitivity	5 4 3 2 1 0	5 4 3 2 1 0
10.2 Willingly take directions from superiors	5 4 3 2 1 0	5 4 3 2 1 0
10.3 Work productively with others and show them empathy, respect and support	5 4 3 2 1 0	5 4 3 2 1 0
10.4 Demonstrate flexibility by recognizing the need to change and adapting to circumstances as required	5 4 3 2 1 0	5 4 3 2 1 0
10.5 Demonstrate willingness to learn	5 4 3 2 1 0	5 4 3 2 1 0
10.6 Exhibit dependability	5 4 3 2 1 0	5 4 3 2 1 0
10.7 Demonstrate punctuality and complete assignments in an accurate and timely manner	5 4 3 2 1 0	5 4 3 2 1 0
10.8 Follow rules and regulations	5 4 3 2 1 0	5 4 3 2 1 0

MARKETING MANAGEMENT KNOWLEDGE, SKILLS AND COMPETENCIES	For each item, circle the appropriate number						For each item, circle the appropriate number					
	How important is this particular skill, knowledge, or competency to the position?						How competent is the NAIT graduate in applying this knowledge/skill in your workplace?					
	Extremely Important				Not Important	N/A	Highly Competent				Limited Competence	Don't Know N/A
10. WORK HABITS AND ATTITUDES - Continued												
10.9 Have a strong sense of ethics and recognize the consequences of dishonesty	5	4	3	2	1	0	5	4	3	2	1	0
10.10 Assume responsibility for own decisions and actions	5	4	3	2	1	0	5	4	3	2	1	0

SECTION III: LEVELS OF TRAINING AND IMPORTANT JOB FUNCTIONS

A. Listed below are ten areas for which the NAIT Marketing Management Program attempts to develop specific skills and/or general knowledge and understanding in graduates. These areas are consistent with those of section II.

Please respond to the following question by circling the appropriate number for each item.

To what extent do you prefer to hire a NAIT graduate with **general understanding/knowledge** in this area versus the ability to perform **specific tasks/skills**?

SKILL AREA/ CATEGORY	General Knowledge/ Understanding Required				Specific Skills Required	Not Applicable
1. Promotion	5	4	3	2	1	0
2. Merchandising	5	4	3	2	1	0
3. Marketing Research and Statistics	5	4	3	2	1	0
4. Accounting	5	4	3	2	1	0
5. Legal	5	4	3	2	1	0
6. Business Mathematics	5	4	3	2	1	0
7. Economics	5	4	3	2	1	0
8. Communications	5	4	3	2	1	0
9. Problem Solving	5	4	3	2	1	0
10. Work Habits and Attitudes	5	4	3	2	1	0

B. For each of the ten skill areas/categories below, please rank them in order from one to ten according to their relative importance to the position for which your firm hired a NAIT Marketing Management graduate (#1 indicates the most important item and #10 indicates the least important item).

____Promotion
____Merchandising
____Marketing Research and Statistics
____Accounting
____Legal
____Business Mathematics
____Economics
____Communications
____Problem Solving
____Work Habits and Attitudes

SECTION IV: FUTURE SKILL TRAINING REQUIREMENTS

A. In the space below, please identify 3 of the most important job skills that your company will require of NAIT Marketing Management graduates in the next 5 years:

1. ________________________________

2. ________________________________

3. ________________________________

B. Please use the space provided below if you would like to offer any additional comments regarding the Marketing Management Program at NAIT.

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. YOUR COOPERATION IS APPRECIATED.

APPENDIX B

LETTERS TO RESPONDENTS

NAIT

NORTHERN ALBERTA
INSTITUTE OF TECHNOLOGY
11762 - 106 Street
Edmonton, Alberta
Canada, T5G 2R1

Phone 471 - 7400

September 28, 1988

Dear :

In late August you were contacted by telephone regarding a follow-up study of recent NAIT Marketing Management graduates. Since you indicated on the telephone that you are, or have been, the supervisor of such a graduate, your views are essential to the success of this study.

The purpose of the study is twofold; firstly, to determine the importance which you place on the skills and knowledge being developed in the Marketing Management program, and secondly, to determine the extent to which you judge the NAIT graduate hired by your firm to be competent in performing these skills. Your response is important so that the strengths and weaknesses of the Marketing Management program may be properly assessed. Such assessment is helpful for ensuring that the program continues to meet the needs of both graduates and employers, such as yourself. If you have hired more than one NAIT graduate in the last three years, please respond to the questionnaire in terms of the graduate hired most recently.

The study is being conducted by the undersigned in order to meet the thesis requirements of the Faculty of Graduate Studies and Research at the University of Alberta. In my dual capacity as an instructor in the program, this study has the full support of the Marketing Management Program Head, Ray Heath. In addition, it is being conducted in cooperation with the Program Development Services unit at NAIT.

Since your time is valuable, you will be pleased to know that you will need only about twenty minutes to complete the enclosed questionnaire. Once you have done so, please mail it before October 28, 1988 in the self-addressed and stamped envelope which has been provided for you. In addition, when you mail the questionnaire please mail separately the enclosed card which will ensure that no further follow-up correspondence be sent to you.

In order to ensure that your opinions are treated with the utmost confidentiality, please refrain from indicating your name, your company name, and the graduate's name on the questionnaire.

If you have any questions, you may reach me during the day at 471-7791. Your cooperation and support is appreciated.

Yours sincerely,

Donna Richardson

cc Ray Heath, Program Head
Marketing Management Program

Mike Kennedy, Coordinator
Curriculum Development
Program Development Services

NORTHERN ALBERTA
INSTITUTE OF TECHNOLOGY

11762 - 106 Street
Edmonton, Alberta
Canada T5G 2R1

Phone 471-7400

November 3, 1988

Dear Sir/Madam:

Approximately two weeks ago a questionnaire was mailed to you regarding a follow-up study of the graduates of the Marketing Management program at NAIT. If you have not completed and mailed the questionnaire, I would appreciate your taking a few minutes to do so today. A second copy of the questionnaire is enclosed for your convenience.

You have been asked to participate in this study since, as a supervisor of a recent NAIT graduate, the opinions that you express will be most valuable in an assessment of the Marketing Management program. Your feedback is necessary for keeping the program relevant to the needs of both the graduates and employers, such as yourself.

In order to guarantee the confidentiality of your opinions, please do not indicate your name, your company name, or the name of the graduate on the questionnaire.

Please complete and mail the questionnaire as soon as possible. When you do so, please mail separately the enclosed card which will ensure that no further follow-up correspondence be sent to you.

Your cooperation and support is appreciated.

Yours sincerely,

Donna Richardson

Donna Richardson

cc Ray Heath, Program Head
Marketing Management Program

Mike Kennedy, Coordinator
Curriculum Development
Program Development Services

NORTHERN ALBERTA
INSTITUTE OF TECHNOLOGY
11762 - 106 Street
Edmonton, Alberta
Canada T5G 2R1

Phone 471-7400

December 8, 1988

Dear

Twenty minutes of your time is all that is needed for you to provide the clues which will help to solve the puzzle.

Approximately four weeks ago a duplicate copy of a questionnaire was mailed to you regarding a follow-up study of the graduates of the Marketing Management program at N.A.I.T. You may have misplaced the questionnaire, or simply been able to complete and mail it to me.

Once again, your assistance and co-operation are being sought in this regard. Your opinions about the N.A.I.T. Marketing Management program are fundamental to the success of this study. It is for this reason that data analysis is being delayed for a short time so that you have the opportunity to mail your completed questionnaire.

Please complete and mail the enclosed questionnaire as soon as possible. When you do so, please mail separately the enclosed card.

Your time, patience and co-operation are appreciated. If you would like a summary of the findings of the study, I would be pleased to send you a copy of the abstract once it is prepared.

Your sincerely,

Donna Richardson

Donna Richardson
Instructor

cc: Ray Heath, Program Head
Marketing Management Program

Mike Kennedy, Coordinator
Curriculum Development
Program Development Services

Donna Richardson
NAIT, T200C
11762 - 106 Street
Edmonton, Alberta
T5G 2R1

As you requested, I have completed and mailed to you the questionnaire regarding the most recent NAIT Marketing Management graduate that I have supervised.

Text used in postcard sent to respondents.

APPENDIX C

DISTRIBUTION OF RESPONSES TO SURVEY QUESTIONS

Table C 1

Frequency Distribution of Promotions Skills Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Locate prospective buyers	30	6	8	3	1	8	5	12	16	6	3	8
Determine customer needs	36	13	4	2	0	2	4	22	15	8	2	1
Plan sales presentation	25	11	9	5	0	7	5	14	13	12	2	6
Demonstrate product use	18	13	5	2	2	13	7	12	8	9	1	8
Stimulate repeat business	32	12	3	0	0	7	10	14	11	7	1	5
Understand operation of sales force	5	8	17	11	4	10	2	7	12	15	3	10
Plan promotions	7	11	10	9	8	11	3	8	14	8	4	12
Select media to reach target market	9	9	7	8	8	15	1	10	10	11	3	14
Prepare advertising copy	6	4	4	4	12	26	3	6	6	7	2	24
Evaluate advertising	5	8	5	7	8	23	1	4	15	5	3	20
Write/edit news releases	2	4	1	4	10	34	1	3	4	5	1	31
Identify/communicate with relevant publics	6	8	14	7	9	11	3	6	16	8	3	12
Plan/implement special promotions	10	8	3	9	5	21	4	9	8	5	5	18
Evaluate promotions	7	8	10	7	4	20	2	6	13	9	2	16

Table C 2

Frequency Distribution of Merchandising Skills
Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Conduct a location analysis	2	0	7	3	4	38	1	4	2	2	0	34
Prepare merchandise budgets	5	3	7	3	4	32	2	4	5	4	2	27
Design a model stock	3	2	5	4	4	36	1	4	7	1	1	29
Analyze effectiveness of merchandise displays	6	4	8	2	2	32	2	8	6	1	1	26
Select suppliers and monitor relations	4	3	7	1	6	33	0	7	5	2	2	28
Handle merchandise	8	6	5	3	4	28	4	7	7	1	2	24
Implement inventory control system	4	6	7	2	6	30	4	7	2	4	1	26

Table C 3

Frequency Distribution of Marketing Research and Statistics Skills
Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Define mkting problems	11	11	16	6	2	9	2	8	17	11	2	9
Develop hypotheses	4	7	15	9	3	16	2	4	13	8	2	17
Gather, analyze, interpret data	8	11	10	2	6	16	3	7	11	8	1	16
Prepare research reports	4	3	5	9	5	28	1	4	6	6	2	25
Select appropriate samples	3	3	2	6	6	33	1	2	5	6	1	27
Conduct statistical analysis	4	4	1	5	5	34	2	4	3	3	0	29
Interpret surveys	4	7	8	7	3	23	1	6	9	7	0	19

Table C 4

Frequency Distribution of Accounting Skills Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Prepare/interpret financial statements	5	6	7	7	4	26	2	5	10	3	1	23
Understand effects of cost on pricing	12	9	9	5	2	18	2	4	19	5	2	12
Evaluate financial performance	2	4	6	7	6	29	0	3	12	3	2	22
Consider implications of adding/dropping lines	5	3	6	4	3	33	0	5	6	4	0	26
Use capital budgeting	1	1	4	4	3	41	0	1	4	2	0	34

Table C 5

Frequency Distribution of Legal Skills Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Understand judiciary	2	3	5	7	7	29	1	3	8	1	3	26
Understand jurisdiction of courts	0	1	2	6	9	35	0	2	5	2	1	30
Understand principles of tort law	1	2	7	8	6	29	0	4	7	3	2	25
Understand ingredients of a valid contract	6	6	10	6	4	20	1	7	9	4	3	19
Understand landlord/tenant relations	2	0	2	5	9	35	1	2	4	2	1	31

Table C 6

Frequency Distribution of Business Mathematics Skills
Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Perform pricing calculations	14	7	11	3	3	16	6	9	13	4	1	13
Perform calculations of interest	0	2	1	3	5	41	1	2	1	3	1	33
Evaluate using net present value techniques	1	1	6	1	5	38	1	2	5	1	2	30
Perform foreign exchange calculations	2	3	4	3	3	36	2	2	2	5	2	28

Table C 7

Frequency Distribution of Economics Skills
Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Understand supply and demand	7	7	13	3	3	19	1	7	11	5	2	18
Understand price sensitivity	9	13	12	3	1	14	2	8	15	6	2	12
Understand pure competition, etc.	5	4	9	7	5	23	0	3	10	5	1	26
Understand the influence of interest rates, etc.	2	4	13	4	4	26	0	4	6	4	2	29
Understand fiscal/ monetary policy	3	2	7	4	6	30	0	4	4	1	2	32
Understand how to measure GNP	1	3	9	4	8	28	0	3	6	2	3	31

Table C 8

Frequency Distribution of Communications Skills Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Comprehend written communications	28	21	5	1	0	0	10	19	17	3	1	0
Follow written/spoken instructions	38	12	4	0	0	0	13	20	14	2	1	0
Write clearly/effectively	31	15	7	0	1	0	10	15	10	12	2	1
Engage in oral exchange of ideas	32	19	4	0	0	0	10	19	17	4	1	0
Answer questions coherently	36	16	3	0	0	0	12	14	16	8	1	0
Conduct effective oral presentation	21	12	11	2	1	6	8	9	15	7	1	7
Present oneself well to others	44	10	0	1	0	0	14	16	16	3	2	0
Use job related terms	33	14	6	0	1	0	10	17	15	7	1	0
Listen attentively	43	11	1	0	0	0	14	16	14	6	1	0
Use software such as DOS	6	6	9	3	3	26	5	3	9	2	3	22

Table C 9

Frequency Distribution of Problem Solving Skills Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Identify problems and propose solutions	26	19	9	0	0	1	7	13	21	8	1	0
Think independently	32	20	2	1	0	0	8	18	16	9	0	0

Table C 10

Frequency Distribution of Work Habits and Attitudes Rated on Importance and Competence

Skill	Importance						Competence					
	5	4	3	2	1	0	5	4	3	2	1	0
Demonstrate intuition	24	22	7	1	0	0	8	14	20	4	3	0
Willingly take directions	31	18	6	0	0	0	18	16	12	2	2	0
Work productively with others	33	17	4	0	0	1	14	20	9	4	2	1
Demonstrate flexibility	34	17	4	0	0	0	15	13	16	4	2	0
Demonstrate willingness to learn	36	17	1	0	0	0	21	16	9	1	2	0
Exhibit dependability	38	12	3	0	1	0	19	14	12	2	2	0
Demonstrate punctuality	42	9	3	0	0	0	14	16	13	3	3	0
Follow rules/regulations	34	14	5	2	0	0	18	13	15	0	4	0
Have a strong sense of ethics	49	4	2	0	0	0	25	14	8	1	1	0
Assume responsibility for own decisions	42	10	3	0	0	0	21	15	11	1	2	0

Table C 11

Frequency Distribution of Employers' Preferences for Graduates with General Understanding Versus Specific Skills

Skill Category	General Understanding			Specific Skills		N/A
	5	4	3	2	1	0
Promotion	14	13	11	4	8	4
Merchandising	14	12	8	2	8	10
Marketing Research/Statistics	10	13	7	7	5	12
Accounting	9	8	10	9	3	15
Law	10	8	7	6	7	16
Business Mathematics	11	9	7	5	12	11
Economics	11	10	12	3	3	13
Communications	25	6	1	4	17	3
Problem Solving	22	8	7	5	12	2
Work Habits and Attitude	31	3	4	3	14	1

APPENDIX D

CROSS-TABULATIONS OF THE SIZE OF ORGANIZATION AND THE RATED IMPORTANCE OF CERTAIN SKILLS

Table D 1

Cross-Tabulation of the Size of Organization and the Rated Importance of the Ability to Write News Releases

		Importance		
		5 & 4	3	2 & 1
Size	Small	5	0	3
	Large	1	1	11

Chi-square = 7.471 p= .024

Table D 2

Cross-Tabulation of the Size of Organization and the Rated Importance of the Ability to Conduct a Location Analysis

		Importance		
		5 & 4	3	2 & 1
Size	Small	2	2	0
	Large	0	5	7

Chi-square= 8.381 p= .015

Table D 3

Cross-Tabulation of the Size of Organization and the Rated Importance of the Ability to Handle Merchandise

		Importance		
		5 & 4	3	2 & 1
Size	Small	2	2	0
	Large	0	5	7

Chi-square= 8.381 p= .015

Table D 4

Cross-Tabulation of the Size of Organization and the Rated Importance of the Ability to Use Capital Budgeting Techniques

		Importance		
		5 & 4	3	2 & 1
Size	Small	1	0	0
	Large	1	4	7

Chi-square= 5.958 p= .050

Table D 5

Cross-Tabulation of the Size of Organization and the Rated Importance of the Ability to Understand the Judicial Process

		Importance		
		5 & 4	3	2 & 1
Size	Small	3	3	1
	Large	2	2	13

Chi-square= 7.889 p= .015

Table D 6

Cross-Tabulation of the Size of Organization and the Rated Importance of the Ability to Understand the Principles of Tort Law

		Importance		
		[illegible] & 4	3	2 & 1
Size	Small	3	2	2
	Large	0	5	12

Chi-square= 8.788 p= .013